

QUEENSLAND



DAIRYING

NEW EDITION 1912

COMPILED AND ISSUED BY  
THE INTELLIGENCE & TOURIST BUREAU;  
CORNER OF QUEEN & GEORGE STS BRISBANE  
QUEENSLAND

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NEW  
EDITION

# Queensland Dairying . .

*with the author's  
comments P. J. Nally*



*By P. J. Nally*



1912

Compiled and Issued by  
The Government Intelligence  
and Tourist Bureau

Corner Queen and George Streets  
Brisbane - - Queensland





CATTLE SCENE IN THE MARANOA DISTRICT, SOUTH WESTERN QUEENSLAND

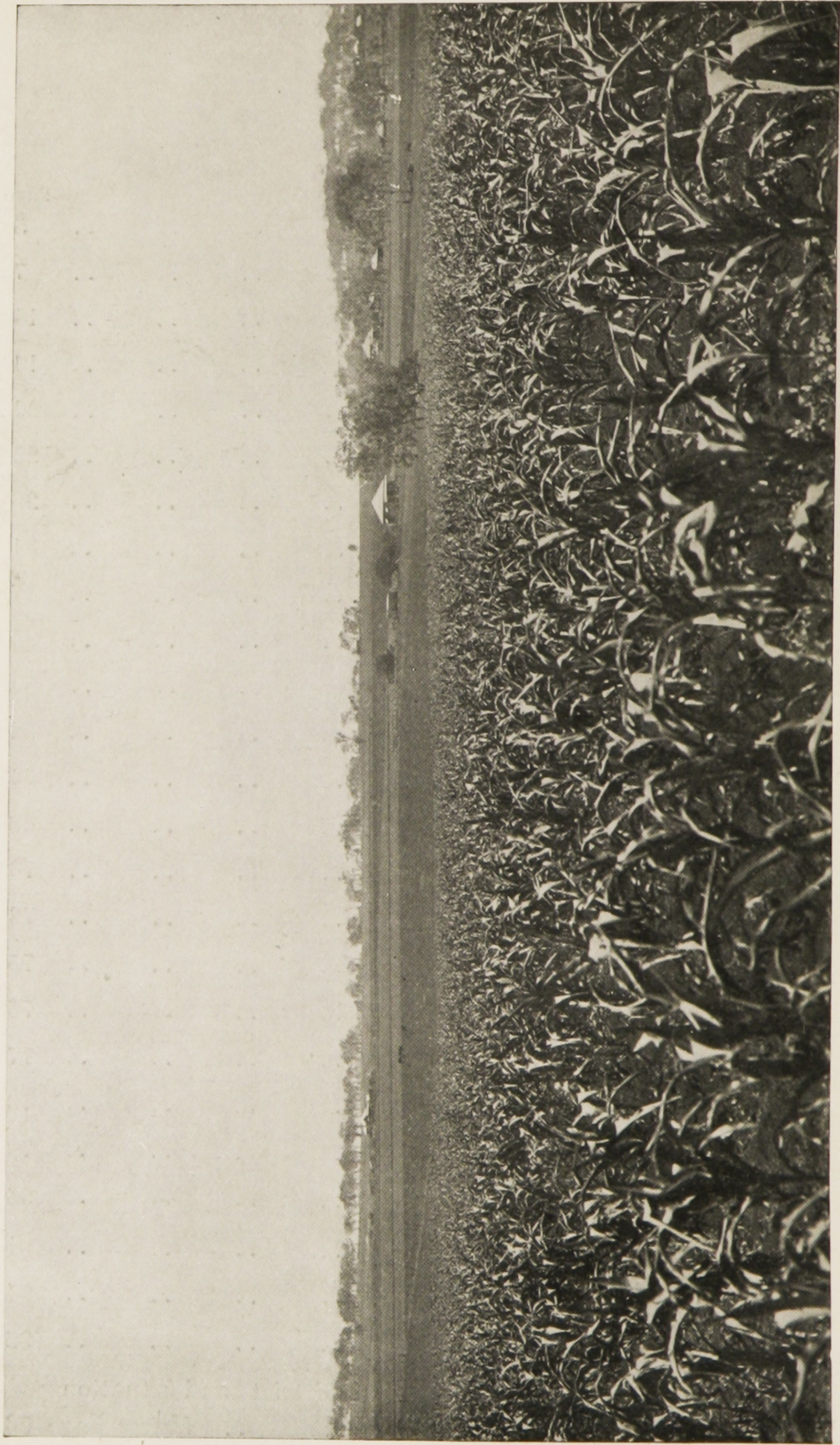


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CROP OF MAIZE AT WESTBROOK, NEAR TOOWOOMBA





## INTRODUCTION.

Queensland, with her vast area of 429,120,000 acres, offers unlimited possibilities for the pursuit of dairying on an extensive scale at the fullest measure of profit. Few countries in the world are more adapted than Queensland for the successful carrying on of this very important branch of agriculture: her lands are singularly fertile, her climate is suitable (both from an agricultural and health point of view), her rainfall is general and well distributed, and her future destiny is of the brightest character. Comparatively speaking, the industry is only in its infancy, but it is going ahead by leaps and bounds; so much so, indeed, that of late years it has made marvellous expansion.

The population of Queensland, to-day, only numbers about 626,000, but there is ample room within her huge territory for millions of agriculturists. To the new arrival the task set him at the outset is strenuous, but by the display of thrift, grit, and perseverance he is enabled to





reap a golden reward for his arduous labours. The pioneers of the dairying industry have had to face great difficulties, and it was only by grim determination and courage that they overcame these, with the result that many of them are, to-day, spending the evening of their lives in comfort and independence. Though there is still much hard work to be done in order to place this State in the van of the dairying countries of the world, still the conditions of yesterday and to-day suffer by comparison.

Consequent upon the construction of a regular network of railways into the majority of the agricultural districts, and the attendant development of the country, the circumstances under which dairying is now carried on have improved the lot of those engaged therein to a very marked degree. The worries of those taking up dairying under present-day conditions are mere molehills compared with the mountains of worry and anxiety of the pioneers. Existing worries consist chiefly of establishing himself on his farm, but these are, with an ordinary amount of luck, generally overcome after the first year of occupation. From thence onwards he is on the high road of success, and regularly every month his returns for cream, milk,







and other products bring him in handsome cheques, a good percentage of which he is enabled to bank.

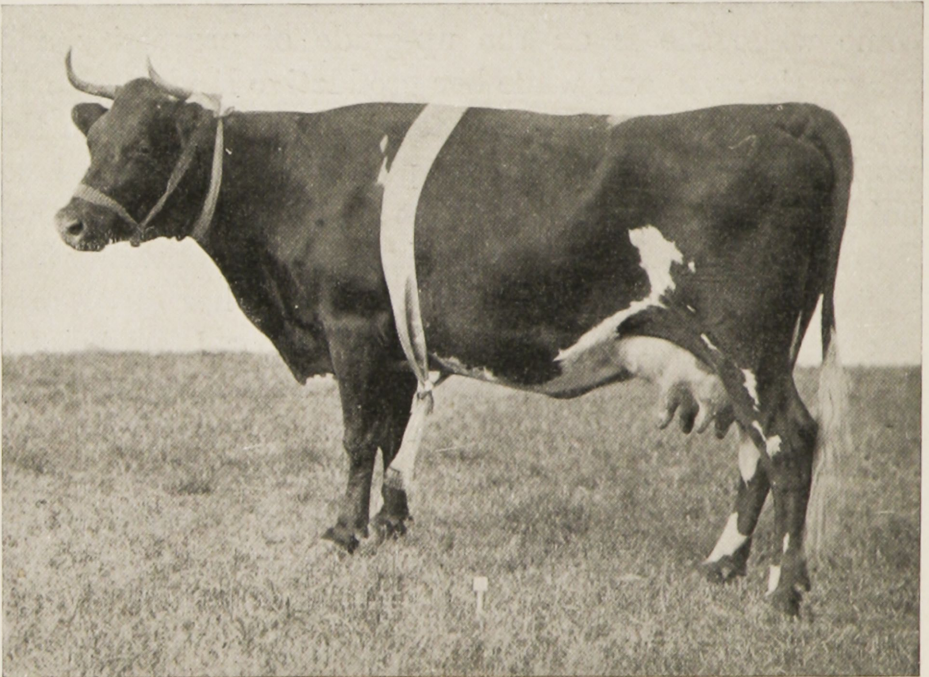
Queensland calls aloud for millions of new arrivals to people her huge empty spaces. Now is the time to come while she is on the up-grade of prosperity and progressiveness, and while her productive lands are to be obtained on the most liberal terms and conditions in the world. Looked at from every point of view, Queensland holds out greater opportunities than any of the other States of the Commonwealth ; her climate is healthy and invigorating at all periods of the year ; her death-rate is exceptionally low, being only 10.65 per 1,000 inhabitants ; and her annual rainfall ranges from about 11 to 22 inches in the Western districts and from 32 to 148 inches along and adjacent to the coast. Between 30 and 40 inches, however, is a fair average for the areas in which dairying is engaged in.

### **DAIRYING DISTRICTS.**

Queensland is rich in country wherein large tracts of rolling downs and grassy slopes exist. In many instances, these are lightly timbered, and the herds are thus afforded ample shelter from the rays of the mid-day sun, from the bleak winds of winter, and from the drenching rains of the wet season. For years the famous Darling Downs was the only dairying district, but, to-day, other portions of the State are equally as important. Dairying is now pursued on a more or less large scale in the Lockyer, Stanley, Rosewood, Fassifern, Logan, Albert, Maranoa,



Wide Bay, Burnett, Blackall, and Central districts. In the North the industry is being engaged in in the Mackay, Bowen, Lower Burdekin (Ayr), Charters Towers, Herbert River, Johnstone River, Tully River, and the Cairns hinterland. The possibilities of the Atherton district in this respect, in particular, are unlimited, for no portion of Queensland is more favoured by Nature for successful dairying operations than this remarkably rich agricultural area. Its climate is as temperate as that on the Darling



CHAMPION ILLAWARRA COW

Downs, and its general rainfall enables the herds to feed upon the nutritious natural grasses at all periods of the year.

Most of the dairying districts of the State are well watered by rivers and creeks, and there is generally an abundance of natural herbage for the herds. The rich and extraordinarily varied character of the soils renders it possible for dairymen to grow all kinds of artificial





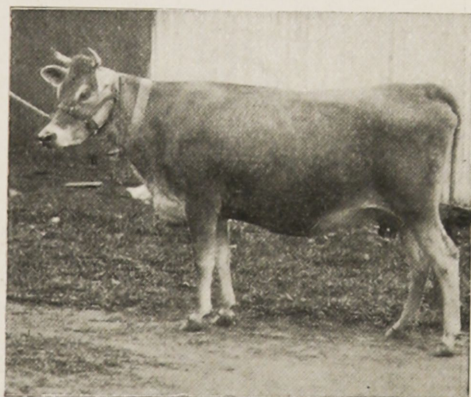
PEDIGREED JERSEY BULL

soils is their wonderful depth of subsoil, which frequently extends below the crust for a distance of 30 feet. Among other crops which do well in these



PUREBRED JERSEY COW

soils are lucerne (particularly on river flats), maize, barley, oats, sorghum, millets, *paspalum dilatatum*, Rhodes grass, &c. Large areas of these crops are grown by dairymen, who realise the necessity of hand feeding their stock. Then again, the cultivation of these crops provide a very profitable means of increasing the annual earnings of the farm. In fact,



PUREBRED JERSEY HEIFER

grasses for the maintenance of the lacteal products of their cows. A large proportion of the soil is of volcanic formation—a rich chocolate in colour; while the other soils are a deep brown and black. Another very noticeable feature of these





DAIRY FARM ON LAIDLEY CREEK, SOUTH QUEENSLAND





THREE AYRSHIRE CHAMPIONS

no dairyman can claim to be up to-date unless he grows some, at least, of these crops for home consumption and market purposes. Potatoes, pumpkins, mangel-wurzels, &c., should also be raised on the farm, and, of course, pigs. It is by embarking in these branches of agriculture that he is obtaining the best results from his land, and increasing its productiveness, at least, two-fold.

Taken on the whole, the winter throughout Queensland is mild, and it is not, consequently, absolutely

necessary to rug milking cows during this period of the year. There is, however, a decided advantage in doing so, for, not only does it tend to promote the comfort of the beasts, but it also con-

CATTLE  
AT  
WATER  
TROUGH

duces to the maintenance of their milk production.

Elsewhere in this book will be found a map, showing





TYPICAL SOUTH QUEENSLAND DAIRY FARM



the localities in which dairying is, and can be, carried on successfully.

### DAIRYING LAND AVAILABLE.

In the more settled districts of the State there is practically no Crown land available for dairying purposes. There are, however, a number of freehold properties, which are partly improved, on the market for sale at fairly reasonable prices. Compared with the prices asked for similar Crown country, these appear to be somewhat exorbitant. To-day, the State Lands Department has large areas of splendid dairying country, in various areas, open for selection in the Wide Bay, Burnett, Blackall, Central districts, and Cairns hinterland at prices ranging from 10s. per acre upwards. The terms

of payments extend over a period of 20 years: the deposit is the first year's rent and one fifth of the survey fees, and the annual rental is one-fortieth of the purchasing price.

The best land in the Wide Bay and Burnett districts is in close proximity to the railway line, and the average price thereof is 30s. per acre. There are a number of butter factories close handy by rail. In the Atherton and Herberton districts the dairying areas are adjacent to the railway

system, and there are several butter factories within easy distance. The average price of the pick of these lands is £2 per acre. The lands in the Blackall Range





districts are also well situated so far as railway communication and factories are concerned, but the prices fixed by the Crown therefor range from £2 per acre upwards. In the Central districts, particularly around Gladstone, some good dairying country is open for selection from the Crown at from 20s. per acre upwards, according to its proximity to the railway system. When the Great Western and Great North Coast railways are open for traffic huge areas of country suitable for dairying

purposes will be opened up, and will, in due course, be made available for close settlement by the Lands Department.

There are 4,360,188 acres of Crown land suitable for dairying and general farming open for selection in various portions of the State on exceptionally easy terms and conditions at the present time.

In the Wide Bay and Burnett districts freehold dairying country was recently sold by auction at from £3 to £6 2s. 6d. per acre on easy terms.

It is as well to remark that the land, for which the Crown is asking 10s. per acre, is not, in most cases, close to a railway or port.



### HISTORY OF THE INDUSTRY.

That the dairying industry has made marvellous expansion in Queensland since its introduction is demon-





PUREBRED HOLSTEIN BULL

strated by the fact that less than 20 years ago over 780,000 lb. of butter had to be imported to supply local wants. The present satisfactory condition of the industry is due to the wise move of the Government 20 years ago in sending travelling dairies into the rural districts to give ocular demonstrations to the farmers of butter and cheese



PUREBRED HOLSTEIN COW





JERSEYS AT WANORA, S.Q.

making on scientific lines. The late Mr. John Mahon, who subsequently filled the position of Principal of the Queensland Agricultural College at Gatton, was one of the experts engaged by the Government to impart this knowledge to the agriculturists. Much prejudice had to be contended with, but eventually the farmers were made to see the futility of pursuing their then unscientific methods. The outcome of these practical object lessons was that the dairymen improved the breeds of their herds, and adopted more modern ideas in the pursuance of this industry than was previously the case.

In those days dairying was not by any means as profitable as it is to-day, the milk returns, because of the inferior character of the cows bred, were small, and farmers rarely obtained more than from 3d. to 4d. per lb.



AYRSHIRES AT WANORA, S.Q.



from the local storekeeper. To-day the dairyman has his own dairy equipped with a separator and other appliances, and his yards, bails, &c., are modern in construction, and from a sanitary aspect are all that the Act provides for. Then again, a better state of affairs was brought about in regard to the feeding of the herd. Heretofore the cattle were allowed to take their chances during dry spells, as hand-feeding was not considered necessary; consequently, dairymen lost large numbers of their beasts during these periods.



PUREBRED AYRSHIRES AT GATTON AGRICULTURAL COLLEGE

Since then, however, a new order of affairs has been brought about, and the dairyman of to-day evinces a more humane interest in the welfare of his herd by always having on hand an ample supply of fodder to satisfy their wants during adverse seasons.

So advanced have the dairymen become in their ideas that they now realise that the cow reared on natural and artificial grasses or foods gives a much better return than the one which depends solely on the natural herbage for its sustenance.

The improvement of the breeds of the herds has been the most important factor in connection with the uplifting of the industry. The establishment of cold stores by the Government and other private concerns has also done incalculable good.





GRADE SHORTHORNS, SOUTH QUEENSLAND FARM



The Agricultural College at Gatton has justified its existence in the most pronounced fashion, for it is here that practical instruction in all phases of dairying is imparted to the sons of farmers and others, who, from time to time, become students. At the college are to be found all the best strains of pedigreed stock, the progeny of which are sold at auction periodically. Dairymen in the district are also afforded an opportunity of securing the services of the pedigreed bulls for breeding purposes at a trifling cost.



PUREBRED SHORTHORN COW

A similar practice is adopted in connection with the pedigreed stock bred on the State Farms at Warren, near Rockhampton, Gindie, near Emerald (both in Central Queensland), and Kairi, near Atherton (North Queensland).

In 1910 the State produced not only enough butter to satisfy home consumption, but 17,213,179 lb., or about 55 per cent. of the total production, was exported oversea. At an average price of  $10\frac{1}{2}$ d. per lb., this realised over



£751,590 in the English and Continental markets. The total quantity produced in 1910 was 31,258,333 lb., valued at £1,333,800. Last year there was a falling-off in the butter production owing to the existence of a dry spell. Despite these adverse circumstances, however, the quantity manufactured aggregated 27,858,535 lb., and was valued at £1,242,555. The quantity exported to Great Britain and the Continent of Europe totalled 15,171,074 lb., and at 10½d. per lb. this realised £643,023. In the Moreton district (South Queensland) 112,581 cows yielded 34,858,507 gallons of milk, from which 14,305,297 lb. of butter and 148,995 lb. of cheese were produced; Darling Downs (South Queensland)—63,129 cows yielded 22,524,776 gallons of milk, which produced 8,639,305 lb. of butter and 3,566,562 lb. of cheese; Wide Bay (South Queensland)—39,076 cows, 9,679,588 gallons of milk, 3,532,065 lb. of butter, 2,700 lb. of cheese; Port Curtis (Central Queensland)—10,229 cows, 1,951,497 gallons of milk, 840,027 lb. of butter; other districts (including Atherton)—12,982 cows, 2,755,780 gallons of milk, 541,841 lb. of butter.

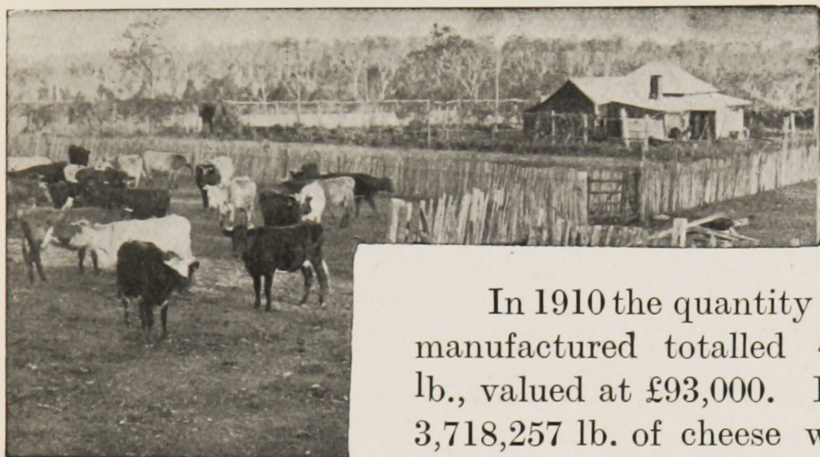
BUTTER EXPORT FROM QUEENSLAND FOR TEN YEARS.

YEAR.			QUANTITY.	VALUE.	AVERAGE PRICE PER LB.
			lb.	£	d.
1902	..	..	548,929	24,378	10½
1903	..	..	1,223,414	49,804	9¾
1904	..	..	9,520,921	344,943	8¾
1905	..	..	11,773,182	455,863	9¼
1906	..	..	14,034,332	582,326	10
1907*	..	..	12,137,867	503,582	10
1908	..	..	13,752,118	622,507	10¾
1909	..	..	12,563,427	541,536	10¼
1910†	..	..	17,213,179	751,590	10½
1911*†	..	..	15,171,074	643,023	10¼

\* The falling-off is due to a dry spell.

† Since the abolition of the book-keeping system by the Federal Customs in regard to inter-State transfers, oversea exports only are credited to the States concerned.





SCENE  
ON A  
DAIRY  
FARM

In 1910 the quantity of cheese manufactured totalled 4,146,661 lb., valued at £93,000. Last year 3,718,257 lb. of cheese were produced, and its value amounted to £89,084. The quantity of condensed milk manufactured in 1910 aggregated 7,843,670 lb., valued at £136,379. In 1911 6,227,519 lb. of condensed milk were produced, the value thereof being £138,513.

In 1910 there were 365,444 milch cows, and last year these numbered 357,095.

Not only does the high-grade quality of Queensland dairy products command top price in the London and Continental markets, but when samples are exhibited at the leading British and foreign shows these, invariably, secure first honours against all other competitors.

It is authoritatively stated that  $2\frac{1}{2}$  gallons of Queensland milk, containing 3.6 per cent of butter fat, will produce 1 lb. of commercial butter; and 2 lb. of cream, testing 41 per cent. of butter fat, will produce the same quantity of commercial butter. The quantity of milk required to make 1 lb. of matured cheese is 1 gallon, testing at from 3.8 to 4 per



CHAMPION AYRSHIRE COW



cent. butter fat. In the manufacture of 1 lb. of condensed milk about 2.6 lb. of milk are required.

The 24,141 persons engaged in the dairying industry last year were responsible for the production of 12,437 tons of butter and 1,660 tons of cheese.

Total value of dairy products in 1911, £2,060,006.

### **QUEENSLAND'S DAIRY HERDS.**

Jerseys, Ayrshires, Milking Shorthorns, and grade cattle are the breeds most in use in Queensland. Many of the dairymen, however, have herds of Illawarras (a purely Australian breed), Lincoln Reds, Holsteins, and Guernseys. Being all more or less purebred strains, their



DAIRY HERD, ROSEWOOD DISTRICT, S.Q.

milk and butter producing qualities are decidedly high. At the principal agricultural shows throughout the State some fine displays of dairy cattle are made every year, and the keen rivalry engendered thereby among the various breeders has a very educative tendency.

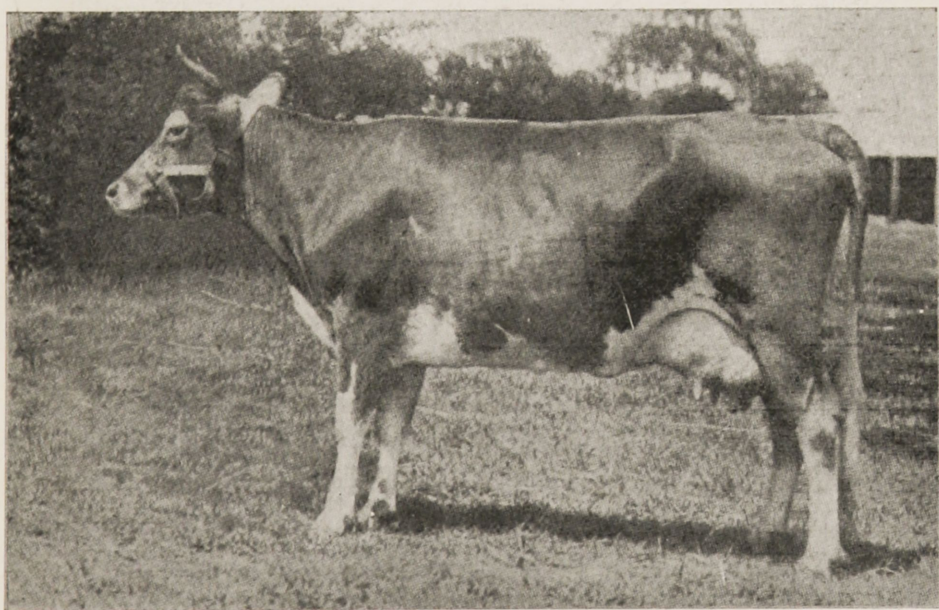




PUREBRED GUERNSEYS, GATTON COLLEGE

Many of the champions at this year's Brisbane Show are shown in the illustrations elsewhere in this book.

The Agricultural College at Gatton makes a particularly interesting show of purebred Ayrshires, Milking Shorthorns, Jerseys, and Holsteins every year at a number of the agricultural exhibitions, and, needless to say, the stock excites much attention from those engaged in dairying.



TYPE OF PUREBRED GUERNSEY COW





PUREBRED AYRSHIRE HERD AT ST. HELENA PENAL STATION.



A number of the more successful dairymen are devoting the greater portion of their attention to the breeding of pedigreed stock, and with this object in view have established stud farms. The efforts of these breeders is already bearing good fruit, as dairy farmers generally now are discarding the weedy beasts, and replacing them with the best strains. When these ideas are adopted by all who follow dairying pursuits the standard of Queensland's cattle will be raised to even a higher level than they occupy to-day.



PUREBRED ILLAWARRA COW

Mention must also be made of the dairying operations carried on at the St. Helena Penitentiary, where there is a fine herd of pedigreed Ayrshires. In October last a purebred Ayrshire bull was purchased from the famous stud of the late Sir John Hay, of Coolangatta, New South Wales. Drummond of Lynburn, who is 4 years old, is a regular aristocrat so far as his breeding is concerned, being by Prince Zulu of Coolangatta out of Drumlanrig's Queen IV. of Coolangatta. In the show-ring Drummond of



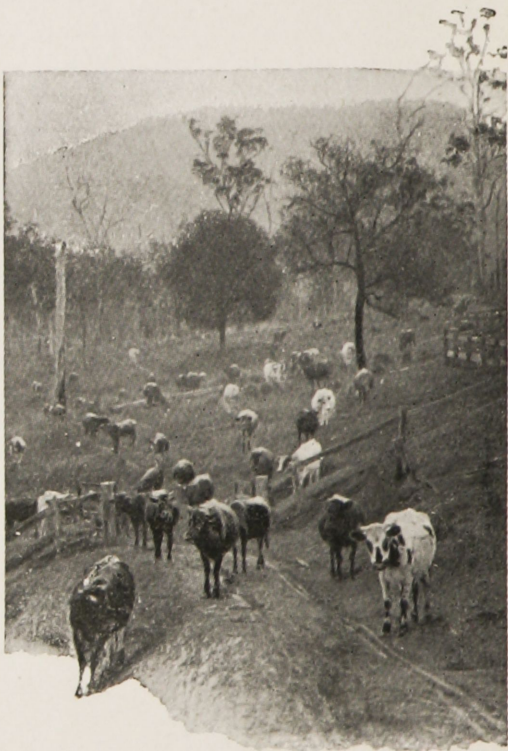
Lynburn won many champion and first prizes at Sydney and other places. His dam is also a champion among milk and cream producers.

Though fancy prices are paid for purebred stock, good grade, or culled, cows can be bought for from £5 to £8 per head, and heifers from £3 to £4 10s. For a dairyman, with a small amount of capital, cattle of this class are all that he requires to make a start with. Later, when he becomes established, he could turn his attention to the improvement of his herd.

### DAIRY HERD-TESTING SCHEME.

With a view of impressing upon dairymen the necessity of improving their herds, the State Department of Agriculture and Stock has appointed several qualified officers, whose duty it is to visit the various dairying centres periodically, and test the productiveness of the cows in the herds of individual dairymen. As a result of this work, many of the unproductive animals have been weeded out by the dairymen, and the general tone of the productiveness of the herds has been raised to a higher standard.

The Department of Agriculture and Stock furnishes the following findings in connection with the herd-testers' operations recently in the Darling Downs,







JERSEY HEIFERS AT KELVIN GROVE, BRISBANE

West Moreton, North Coast, and Beaudesert districts, when 7,073 cows were dealt with :—

The highest average milk yield of a herd of cows per diem was 21.4 lb. of milk per cow ;

Mean average milk yield of a herd of cows per diem was 12.2 lb. of milk per cow ;

Lowest average yield of a herd of cows per diem was 5.3 lb. of milk per cow ;

Highest average butter fat test of the milk of a herd was 4.9 per cent. butter fat ;

Lowest average butter fat test of the milk of a herd was 3.3 per cent. butter fat ;

Highest average commercial butter yield of a herd of cows per diem was 1.06 lb. commercial butter per cow ;

Lowest average commercial butter yield of a herd of cows per diem was .16 per cow.

In comparing the returns of two herds, each consisting of 40 milch cows, for a similar period of lactation of, say, 300 days in each instance, and applying the above actual highest and lowest yield of commercial butter at a valuation of 10d. per lb., we find the following figures are revealed :—

The herd of 40 cows, with an average production of 1.06 lb. of commercial butter per cow per diem, in 300 days would return £530, and the herd of 40 cows, with an



average production of 16 lb. of commercial butter per cow per diem, in 300 days would return only £80, leaving a difference of £450 between the earning capacity of the herd of highest production, and that of the herd of lowest productive capabilities.

Applying the above figures of productiveness in the same ratio to the whole of the dairy stock in this State, which are set down as 365,000 in number, we get the following comparative results :—

365,000 milch cows of the highest average production would, in 300 days, return £4,830,000 ;

365,000 milch cows of the lowest average production would, in 300 days, return £730,000.

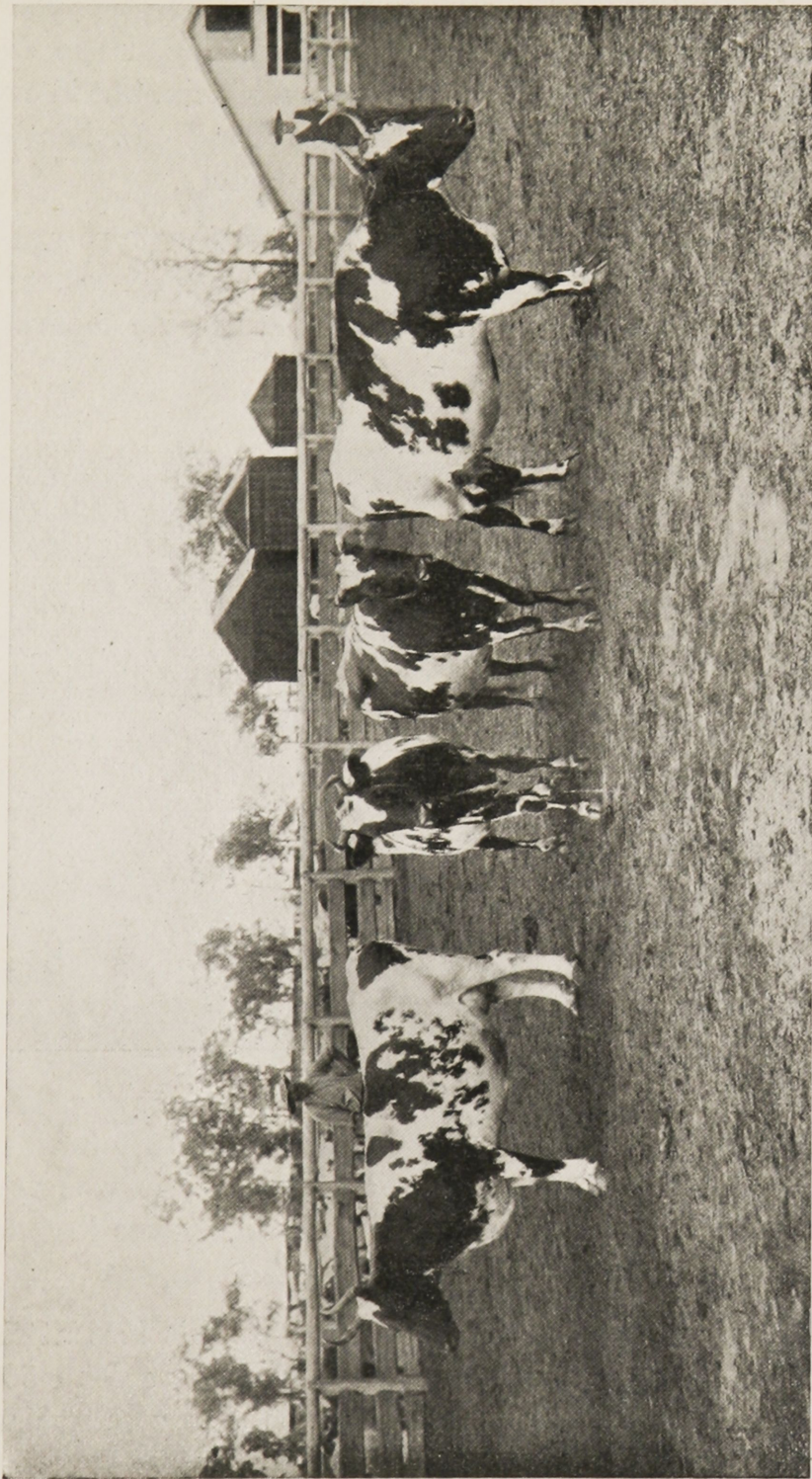
Compared on a tonnage basis it is found that 365,000 cows of the higher standard of productiveness would yield 51,750 tons of butter in 300 days, and 365,000 cows of the lower standard of productiveness would yield 7,821 tons of butter in 300 days.

That such a large disparity in monetary values and tonnage of butter can be derived from the application of actual test results of herds now used for dairying purposes, shows at a glance that much fuller attention should be given to the standard of productiveness of the individual cows in the dairy herds in this State.



JERSEYS ON ENOGGERA CREEK, BRISBANE





GOOD TYPES OF DAIRY CATTLE



An analysis of the reports of the herd-testers goes to show that the standard of productiveness in the dairy herds varies considerably in different districts, but in every herd tested the presence of the "robber" cow has been discovered by the work of the herd-testers.

Another prevalent, yet serious, loss in the returns of the dairy farm has been detected by the herd-testers by the testing of the skim-milk from the private separators of the dairies.



DAIRY SCENE, LOCKYER DISTRICT, S.Q.

In a surprising number of instances, it was found that an abnormal percentage of butter fat was lost daily in the skim-milk.

It was calculated that one dairyman's loss attributable to this cause was equivalent to no less than 50 lb. of commercial butter per month, and many others were unnecessarily losing in the skim-milk butter fat to the value of £1 per month.



The actual separation of butter fat from milk is a very simple and mechanical process, but in the running and operation of the separating machines, there are some essentials that need close observance by the operators.

The following is an analysis prepared by the herd-testers after their inspection of the herds in the under-mentioned districts :—

—	Darling Downs.	Burnett.	North Coast.
Herds tested .. .. .	31	91	27
Cows tested .. .. .	591	2,184	369
Average yield of milk per cow per day ..	12.4 lb.	12.3 lb.	12.1 lb.
Average butter-fat test .. .. .	4.5 p.c.	3.7 p.c.	3.99 p.c.
Average commercial butter .. .. .	.59 lb.	.49 lb.	.53 lb.
Highest milk yield per herd per cow ..	21.4 lb.	19.4 lb.	36.5 lb.
Highest average commercial butter for a herd per day per cow .. .. .	1.06 lb.	.91 lb.	.89 lb.
Lowest average commercial butter for a herd per day per cow .. .. .	.36 lb.	.28 lb.	.16 lb.
Average solids, not fat .. .. .	8.8 p.c.	9.0 p.c.	9.0 p.c.
Highest solids, not fat .. .. .	9.5 p.c.	9.6 p.c.	9.6 p.c.
Lowest solids, not fat .. .. .	8.3 p.c.	8.6 p.c.	8.6 p.c.

No charge is made by the Department for testing the herds of dairymen.

### MONTHLY CHEQUES FOR MILK AND CREAM.

Hereunder are set forth some of the monthly cheques received by suppliers of milk and cream to butter, cheese, and condensed milk factories. During the recent dry spell many of the large suppliers of milk to the cheese and butter factories on the Darling Downs



CREAM AT LAIDLEY WAITING FOR THE TRAIN



obtained exceptionally large cheques for their cream and milk. One supplier was paid £107 by the Greenmount Cheese Factory for his monthly supply of milk; three others received over £100, and many others from £100 downwards. In the Pittsworth district, near Toowoomba, a dairyman, milking on an average  $14\frac{1}{2}$  cows for the month of August, received a cheque of £38 17s. for his milk, each cow earning slightly over £2 10s. The highest cheques paid to suppliers in the Warwick district by the local co-operative butter factory for August were :—£62 0s. 2d., £47 16s., £47 2s. 6d., £44



WAGGON LOAD OF CREAM FOR THE FACTORY

5s. 6d., £42 6s. 10d., £41 17s. 4d., £41 12s. 11d., £41 12s. 7d. The suppliers were paid at the rate of from  $11\frac{3}{4}$ d. to  $13\frac{1}{4}$ d. per lb. commercial butter. The Gayndah Butter Factory, in the Burnett district, paid from  $8\frac{3}{4}$ d. to  $9\frac{3}{4}$ d. for cream in September. From 298 suppliers the Wide Bay Co-operative Butter Factory at Gympie (Wide Bay district) received 113,009 lb. of cream in July, the prices paid therefor ranging from  $12\frac{3}{4}$ d. to 13d. per lb. The amount paid to the suppliers totalled £2,640 14s. 8d.



The Port Curtis Co-operative Butter Factory received 451,926 lb. of cream from 135 suppliers for the year ended 31st May last.

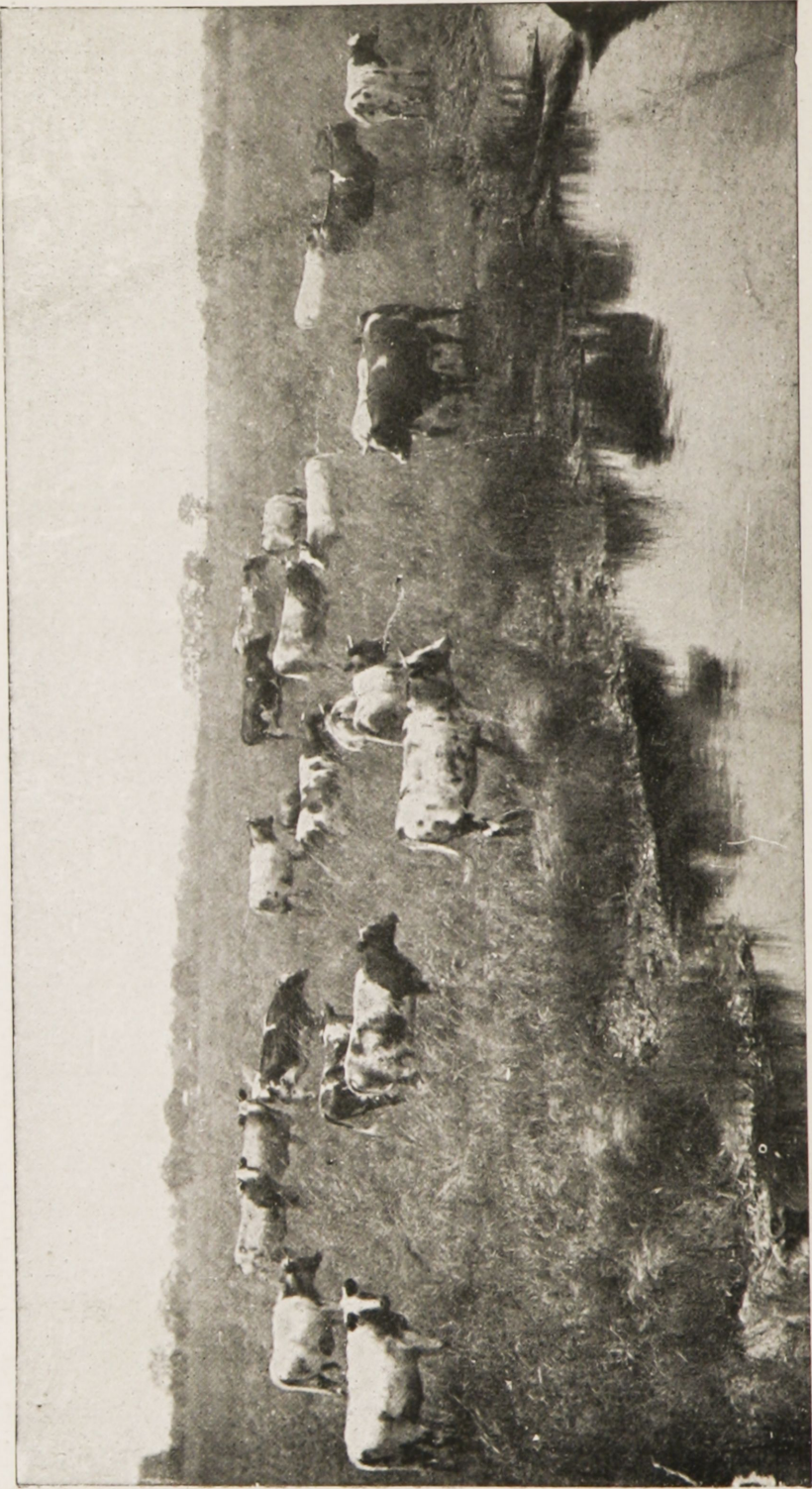
1. DAIRYING PASTURES.
2. FEEDING CALVES.



3. CLEANING CREAM CANS

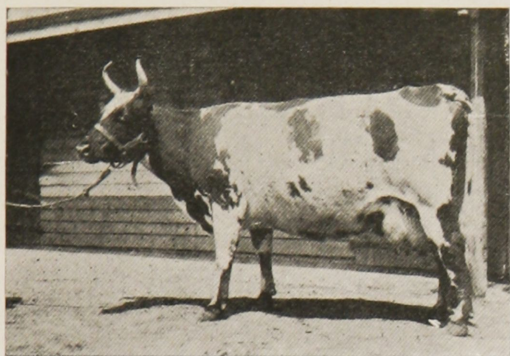
On the farms belonging to the Nestle and Anglo-Swiss Condensed Milk Company at Toogoolawah, in the Brisbane Valley district, an average of about 500 cows are milked annually, the average production from each per day being  $1\frac{1}{2}$  gallons. Mr. H. P. Gardner, who is one of the largest suppliers of milk to this condensery, milks on an average 120 cows annually. From  $5\frac{1}{2}$ d. to 6d. per gallon is paid for the milk. The highest cheques paid to





DAIRYING SCENE IN THE FASSIFERN DISTRICT, S.Q.





PUREBRED AYRSHIRE COW

suppliers for milk in January last, were as follows:—£168 16s. 6d., £142 12s. 2d., £114 0s. 3d., £102 13s. 9d., £95 13s. 9d., £90 0s. 4d., the number of cows contributing towards these earnings being about 2,900.

The average amount paid monthly by the Queensland Farmers' Co-operative Butter Factory at Booval, near Ipswich, to suppliers of cream aggregates £13,586 3s. 9d. A few of the largest cheques paid to suppliers by the Gowrie Condensed Milk Factory, near Toowoomba:—For May last—£59 5s. 10d., the earnings of 40 cows; £32 5s. 1d., 28 cows; £39 8s. 11d., 30 cows; June—£42 10s. 9d., 33 cows; £37 12s., 30 cows; £28 12s. 3d., 22 cows; July—£51 9s., 36 cows; £47 18s. 9d., 34 cows; £33 4s., 28 cows; August—£55 16s. 3d., 38 cows; £54 1s. 7d., 36 cows; £36 19s. 9d., 30 cows.

The South Queensland Co-operative Dairy Co., Ltd., paid the following cheques to the suppliers of cream to its butter factory at Kingston, in the South Coast district, during the past eight months:—January (number of suppliers, 383)—£183 2s. 2d., £163 2s. 1d., £91 0s. 7d., £71 14s., £59 4s., £62; February (number of suppliers, 377)—£144 7s., £136 10s. 7d., £113 19s. 11d., £68 16s. 7d., £52 5s. 6d., £45 4s. 8d.; March (number of



PUREBRED AYRSHIRE BULL



suppliers, 490)—£171 6s. 10d., £160 12s. 3d., £138 8s. 4d., £82 14s. 3d., £75 19s. 10d., £62 16s. 9d. ; April (number of suppliers, 512)—£159 8s. 9d., £143 1s. 3d., £131 11s. 6d., £78 17s. 5d., £65 15s. 4d., £64 1s. 7d. ; May (number of suppliers, 490)—£125 11s. 3d., £104 16s. 1d., £101 7s. 10d., £67 13s. 2d., £57 17s. 3d., £46 1s. 11d. ; June (number of suppliers, 455)—£97 4s. 7d., £64 15s. 11d., £61 2s., £51 9s. 2d., £34 18s. 9d., £32 9s. 11d. ; July (number of suppliers, 445)—£120 1s. 7d., £85 14s. 8d., £56 5s. 7d., £53 2s. 9d., £44 18s., £43 0s. 2d. ; August (number of suppliers, 480)—£127 15s. 9d., £89 1s. 9d., £51 15s., £41 11s., £34 14s. 6d.



DAIRY FARM ON THE DARLING DOWNS

In August and September last 17 cows in the Pittsworth district (Darling Downs) averaged £2 12s. 6d. per cow per month, and in October last they each earned 39s. 3d. Another herd of 12 cows, 8 of which were only constantly in milk, earned £160 for the year. Twenty nine cows belonging to Messrs. Williams and Trotter, of Greenmount (Darling Downs) averaged for three months



this year £1 17s. 7½d. per cow, while a picked dozen of the same herd averaged for the same period £2 12s. 6d. per head. Nine of the lastnamed cows were in milk for twelve months,

The Chinchilla Co-operative Dairy Company received 53,151 lb. of cream in October last, the total amount paid to suppliers aggregating £915 5s. The highest cheques were as follows:—£36 12s. 6d., £25 18s. 4d., £21 0s. 10d., £19, £19 14s. 3d., £19 10s.

One of the suppliers of milk to the Standard Dairy Company's condensed milk factory at Wyreema, near Toowoomba (Darling Downs) averages 30s. per cow per month throughout the year from 45 cows. He contends that a good grade cow should earn on an average 6s. per month.

### A FEW MILKING TESTS.

Every year competitive milking tests are conducted in connection with the Brisbane Show, and the interest manifested therein by dairymen is very keen. The following are the results of this year's tests for forty-eight hours:—

	Milk.	Butter Fat.	Comm. Butter.	Lactation Points.	Total Points.
	lb. oz.				
D. Dunn's Blossom III., Illawarra—7 years, calved June 5	M 21 3	.76	.83	3.1	32.6
	E 21 13	1.04	1.16		
	M 21 0	.92	1.02		
	E 21 12	.97	1.08		
J. A. Nystrom's Beauty of Booie, Illawarra— aged, calved June 5	M 18 5	.58	.63	3.1	24.8
	E 19 1	.72	.79		
	M 18 6	.56	.61		
	E 17 14	.84	.93		
W. F. Hammel's Dora, Jersey—aged, calved July 1	M 18 8	.61	.66	—	21.8
	E 16 12	.63	.69		
	M 17 14	.58	.64		
	E 18 9	.82	.92		
E. Burton's Pussy's Pride, Jersey—6 years, calved July 28	M 16 10	.48	.51	—	16.5
	E 17 6	.48	.52		
	M 18 11	.52	.56		
	E 18 1	.57	.62		



In the home milking tests, which have been conducted for the Illawarra and Shorthorn breeds, the following were the results:—

	Weight Milk.		Test	Comm'l. Butter.	Total Butter in 48 hours.
<b>ILLAWARRAS—</b>	lb.			lb.	
D. Dunn's Blossom III. ..	M	22½	4.0	.99	4.38
	E	21	5.1	1.20	
	M	22½	4.0	.99	
	E	21	5.1	1.20	
A. N. Webster's Donah ..	M	28	3.0	.96	3.72
	E	24	3.4	.94	
	M	29	2.8	.94	
	E	24½	3.1	.88	
Nestle C. D. Co.'s Charm ..	M	20	3.5	.77	3.45
	E	15½	5.35	.93	
	M	20	3.6	.80	
	E	17	5.0	.95	



SHORTHORNS AT TOOGOOLAWAH, S.Q.

**SHORTHORNS—**

S. A. I. Co.'s Bella ..	M	34	3.2	1.19	5.24
	E	26½	4.2	1.24	
	M	33½	3.6	1.3	
	E	28½	4.6	1.47	
S. A. I. Co.'s Beauty ..	M	28	3.4	1.05	4.43
	E	21	4.6	1.08	
	M	28	3.6	1.12	
	E	23	4.6	1.18	
S. A. I. Co.'s Gentle ..	M	20½	3.9	.89	3.14
	E	14¾	4.2	.65	
	M	22	3.6	.88	
	E	15½	4.2	.72	

All tested during July.

M stands for morning, and E for evening.



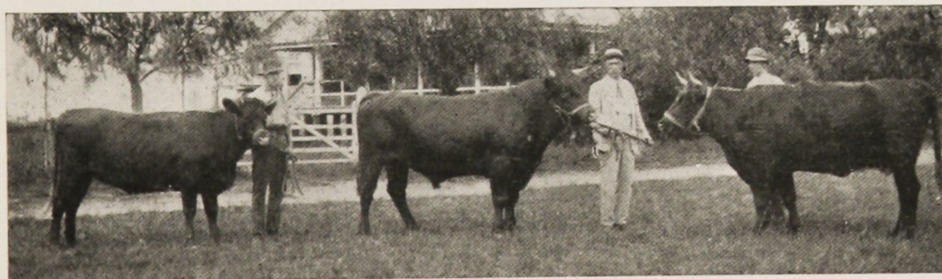


PUREBRED HOLSTEINS, GATTON COLLEGE

Subjoined are the records of the five best cows at the Gatton Agricultural College :—Auntie (Ayrshire), 6 months in milk, 7,665 lb. of milk, 345.85 lb. of commercial butter ; College Lass (Ayrshire), 13 months in milk, 10,432 lb. of milk, 540.7 lb. of commercial butter ; Butter (Shorthorn), 11 months in milk, 7,296 lb. of milk, 375.12 lb. of commercial butter ; Lass (Ayrshire), 9 months in milk, 7,108 lb. of milk, 354.94 lb. of commercial butter ; Glen (Shorthorn), 11 months in milk, 7,914 lb. of milk, 413.66 lb. of commercial butter.

#### **A FEW WELL-CONDUCTED FARMS.**

The Nestle and Anglo-Swiss Condensed Milk Company has six model farms on the banks of Cressbrook Creek at Toogoolawah, in the Brisbane Valley district. These comprise 4,000 acres of exceptionally fine dairying country. There are 1,200 acres under cultivation, the



PUREBRED LINCOLN REDS, GATTON COLLEGE



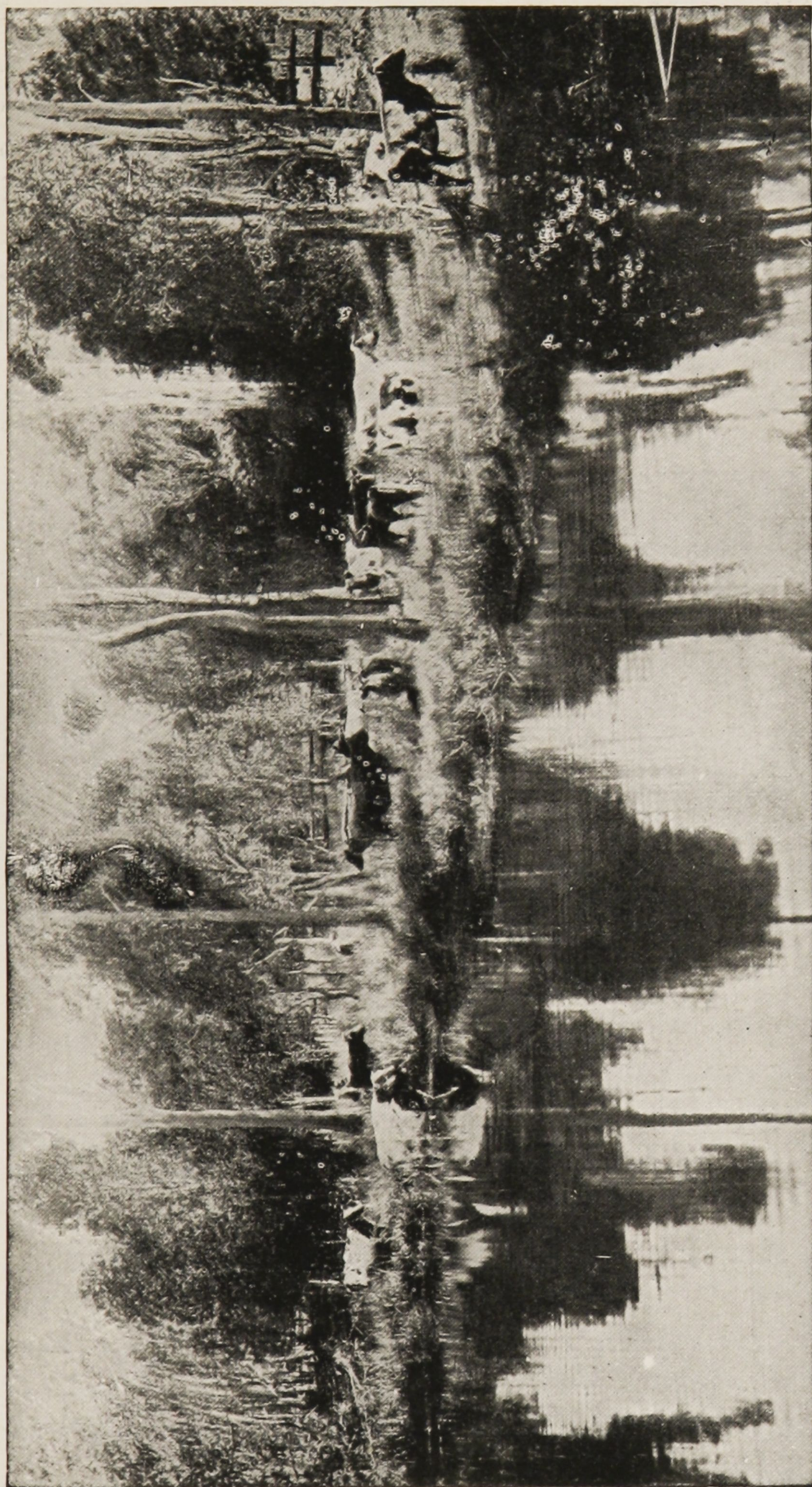
crops consisting of maize, lucerne, millets, oats, barley, pumpkins, &c. In all 70 persons are employed on the farms, mostly married men with families, who attend solely to the dairying operations, all the milking being done by hand. The field work is carried out by specially engaged men. Neat and comfortable homes are provided by the company for the permanent employees on these farms. On an average 500 cows are milked annually, the yield per cow being about  $1\frac{1}{2}$  gallons of milk per day. Milking Shorthorns are chiefly bred, but a start has been made with Holsteins. The lacteal product of the latter



SCENE IN THE LOCKYER DISTRICT, S.Q.

breed is considered to be the most suitable for the making of condensed milk on account of it being very rich in solids. Naturally, the company take a great pride in its herds, which have been carefully selected by its farm manager (Mr. D. C. Pryce), who has had considerable experience in this direction. Royal Standard, the pedigreed bull, is a champion in his class, and carried all before him at the Brisbane Show in 1911-12. The Holstein bull, Duke, is regarded as the best specimen of his breed in Australia. There are twelve silos on the different farms, with a





SCENE IN THE WEST MORETON DISTRICT, S.Q.



capacity of 100 tons each. The water supply for the various farms, factory, &c., is obtained from Cressbrook Creek, from which it is lifted by means of a  $6\frac{1}{2}$  h.p. oil engine, and carried by means of a series of mains into a number of elevated tanks or reservoirs, with a capacity of 6,000 gallons. The reticulation scheme is of the most complete order, and an ample supply of wholesome water is laid on to all the buildings on the different farms. The amount expended by the company on its farms totals £50,419.



GOOD TYPE OF SHORTHORN COW

At Colinton, in the Brisbane Valley district, thirty dairymen have between them 16,451 acres, the farms ranging from 75 acres to 3,000 acres. The area under cultivation aggregates 613 acres, the crops being lucerne, maize, imphee, rape, wheat, barley, all of which are used for winter feeding. In good seasons there is an abundance of natural grasses. The district is well watered by the Brisbane River, Marhongie, Emu, and Arababy Creeks. At the Colinton homestead, Mr. T. H. Moore has a farm of 1,400 acres, 101 acres of which are under cultivation—55 acres of lucerne, 36 acres wheat, and 10 acres barley.



He has a herd of 350 culled Shorthorns, and several pedigreed bulls of the same breed.

Mr. F. G. G. Cooper, of Westbrook, near Toowoomba (Darling Downs), has a farm of 900 acres, the greater portion of which is under lucerne. He has six dairies, each milking 60 cows daily. His herd consists, principally, of grade Shorthorns.

The farm of Mr. H. R. Watson, Sunnyside, Southbrook, near Toowoomba (Darling Downs) covers an area of 263 acres, 40 acres being under oats, 40 acres wheat, 22 acres lucerne, 19 acres maize, and 13 acres Rhodes grass.

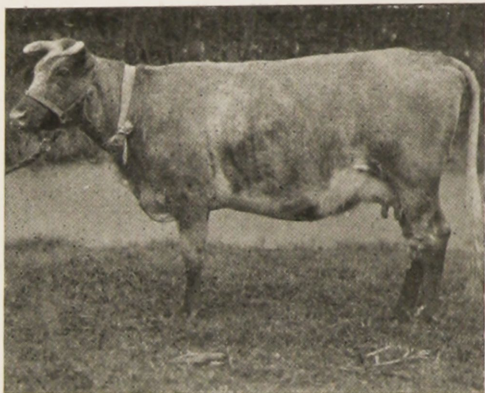


CHAMPION AYRSHIRE BULL AND PROGENY

His returns from the local cheese factory showed that 14 cows earned £25 8s. 1d. in July last, or over 36s. per cow. In May the same cows earned 27s. 2d. each. The yield from sixteen cows for twenty-four hours' milking was 45 gallons, while the whole herd averages £10 per cow annually. Mr. Watson's cheque for August last amounted to £28 9s. 6d., the earnings of sixteen cows, and an average of 35s. 7d. per cow. The quantity of milk produced totalled 1,139 gallons, with a test of 3.8.

Mr. A. Pickels, of Wondai, in the Burnett district, has a stud farm consisting of 320 acres, of which 120 acres are under cultivation—20 acres maize, 20 acres





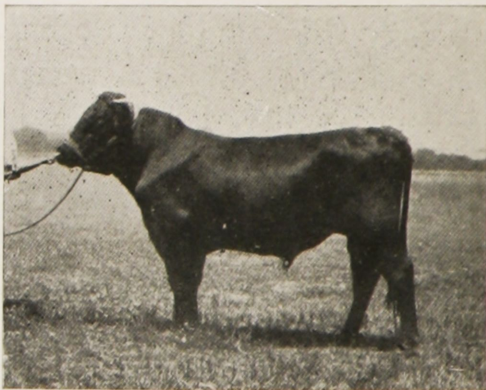
PUREBRED SHORTHORN COW

daily throughout the year. The yield from twenty-two cows in twenty-four hours was as under :—Milk,  $62\frac{1}{2}$  gallons ; cream, 57 lb. ; commercial butter, 25 lb. Sixteen cows earned at the rate of 37s. 6d. each per month during fifteen days in July and August last. The earnings of the same number of cows in July was £26 10s., or about 32s. 6d. each ; and in December last twenty-eight cows returned £35, or 26s. 6d. each.

Mr. Jas. Henderson's herd of 50 grade Jerseys at Jimboomba, in the South Coast district, averaged 22s. 6d. per head in March last. He has two dairies. At the second one 100 cows averaged in March last about 17s. 2d. per head.

Mr. A. Henderson, at Albert Park, on the Albert River, near Beenleigh, in the South Coast district, favours the Jersey-Shorthorn cross of dairy cattle. The number of cows milked during the year vary from 30 to 83, and the total earnings therefrom last year was £474 4s. 4d.

paspalum, 70 acres Rhodes grass, 6 acres lucerne, and 4 acres oats. The herd numbers 80 head, 36 of these being milkers. All the cattle are purebred Illawarras, the two bulls being particularly fine specimens of their class. On an average Mr. Pickels milks twenty-six cows

PUREBRED LINCOLN RED BULL,  
GATTON COLLEGE



At Tenthill, in the Lockyer district, Mr. E. Jamieson's farm covers an area of 1,014 acres. He milks from 150 to 200 cows daily, and his return for cream average £100 per month. About 100 pigs are marketed annually. There are 200 acres under cultivation, including about 70 acres of lucerne; all the crops are used as fodder for the cattle. Shorthorns are chiefly bred, but quite recently Mr. Jamieson purchased a purebred Illawarra bull from a well-known Southern herd. All the appliances and buildings on the farm are of the most modern character.



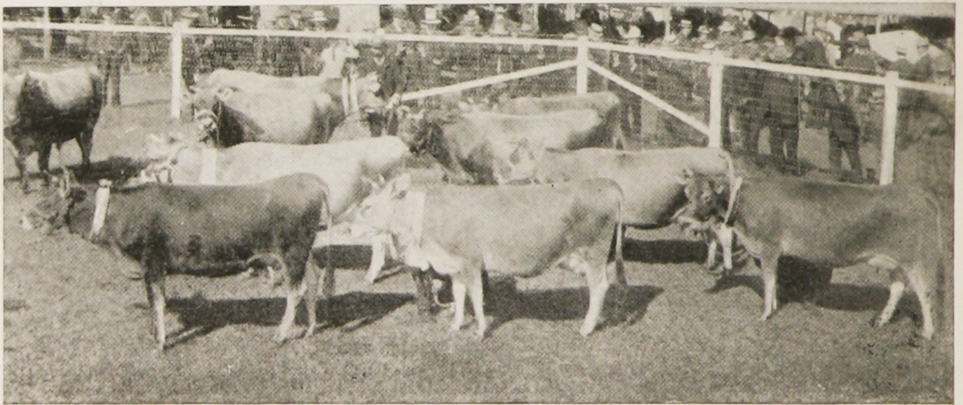
HERD OF JERSEYS

"Edenbann," the stud farm of Mr. R. McCook, is situated on Enoggera Creek at Kelvin Grove (Brisbane), and comprises 50 acres, 8 acres being under maize, Indian cane, sorghum, barley, oats, paspalum, &c., respectively. The herd, which is principally Jerseys, numbers 70 head. In March last 19 cows yielded 1,022 gallons of milk, which realised £51 2s. at the factory; the same number of cows in July produced 1,131 gallons of milk, the cheque received therefor amounting to £56 11s. A milking machine, which can treat four cows at a time, has been installed in the milking sheds.

On Mr. E. S. Webster's 500-acre farm at Maleny,



North Coast district, the herd consists of purebred Guernseys, a pedigreed bull materially assisting to maintain the strain. Paspalum and Rhodes grass are largely cultivated. Mr. J. D. Gay, who has also a farm in the same district, also goes in for good cattle, as is evidenced by the fact that his cheques for cream frequently amounts to £100 per month. One of his farms is being worked on the share system. At North Arm (North Coast district) Mr. G. F. Stafford has 64 acres under artificial grasses, and milks on an average 40 cows daily. Mr. A. E. Cooke, of



GROUP OF JERSEY PRIZE-WINNERS

Eumundi (North Coast district) devotes the whole of his time to the breeding of young heifers, for which there is always a ready sale. Artificial grasses are grown extensively for his herd of 200 cattle.

In the Cairns district and its hinterland there are a number of successful dairymen. Among the most prominent are Messrs. M. L. Cochrane (Cairns), who is a large breeder of purebred Ayrshires ; Hastie Bros. (Mareeba), and T. Purcell (Atherton). The last-named has a farm of 250 acres, 60 acres being under maize, and 6 acres under lucerne, and the remainder under natural and artificial grasses. He has two silos, each with a capacity of 120 tons ; a large herd of dairy cows, which are milked by





PUREBRED AYRSHIRE COW AT GATTON COLLEGE

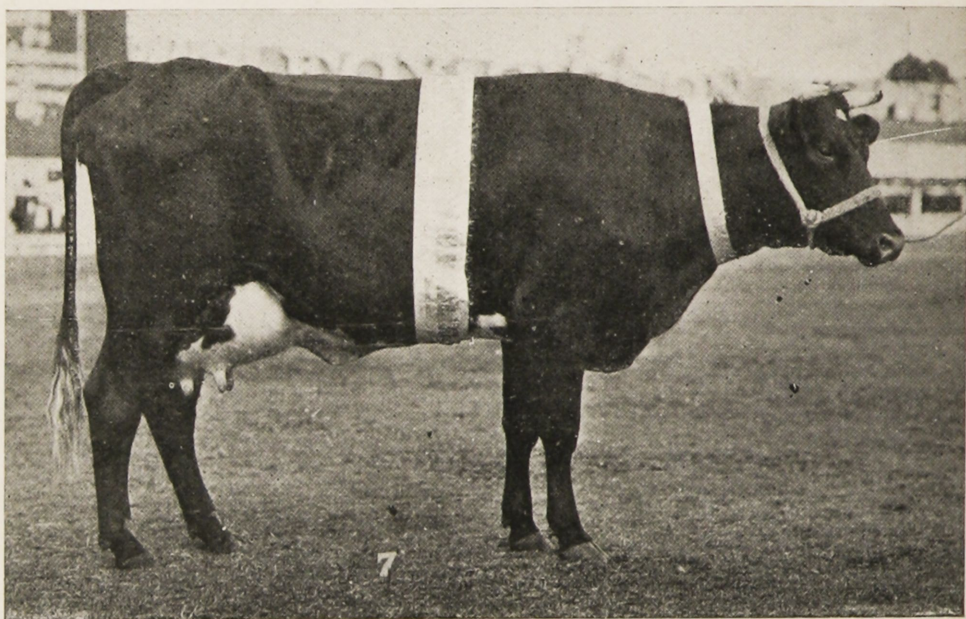
machine, and which produce on an average 5 lb. of butter per week.

Among other large breeders of purebred dairy cattle, the undermentioned call for special reference :—Messrs. W. J. Affleck, Grassmere Stud Farm, Kelvin Grove, (Brisbane) ; E. Burton, Noogoora, Wanora (Brisbane Valley Line) ; J. W. Paten, Wanora (Brisbane Valley Line), and D. Dunn, Beaudesert (South Coast Line), The foregoing are also successful exhibitors every year at the Brisbane Show, and at many of the country ones as

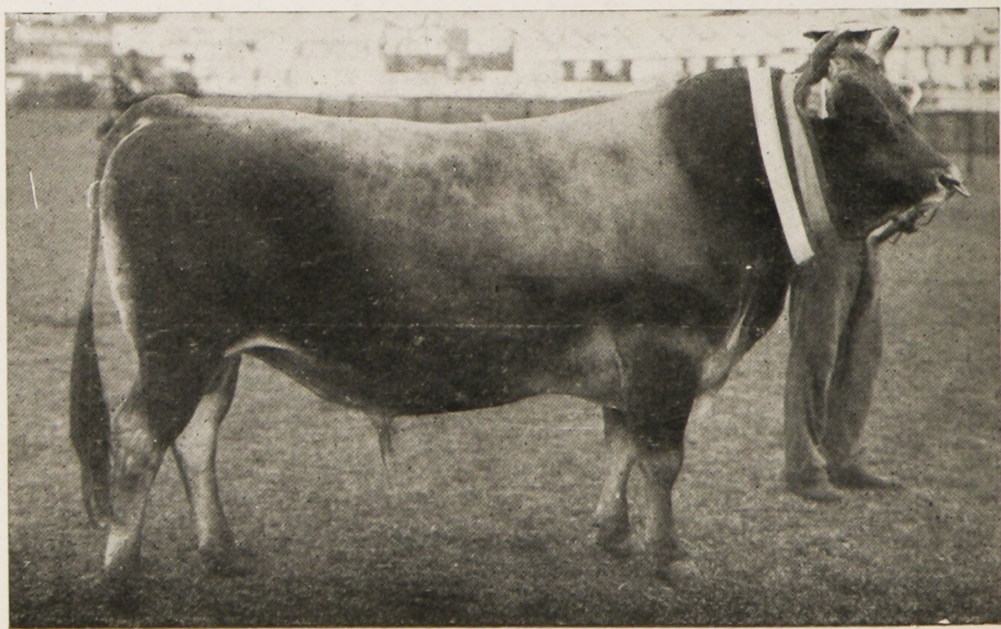


CHAMPION AYRSHIRE GROUP





CHAMPION ILLAWARRA COW

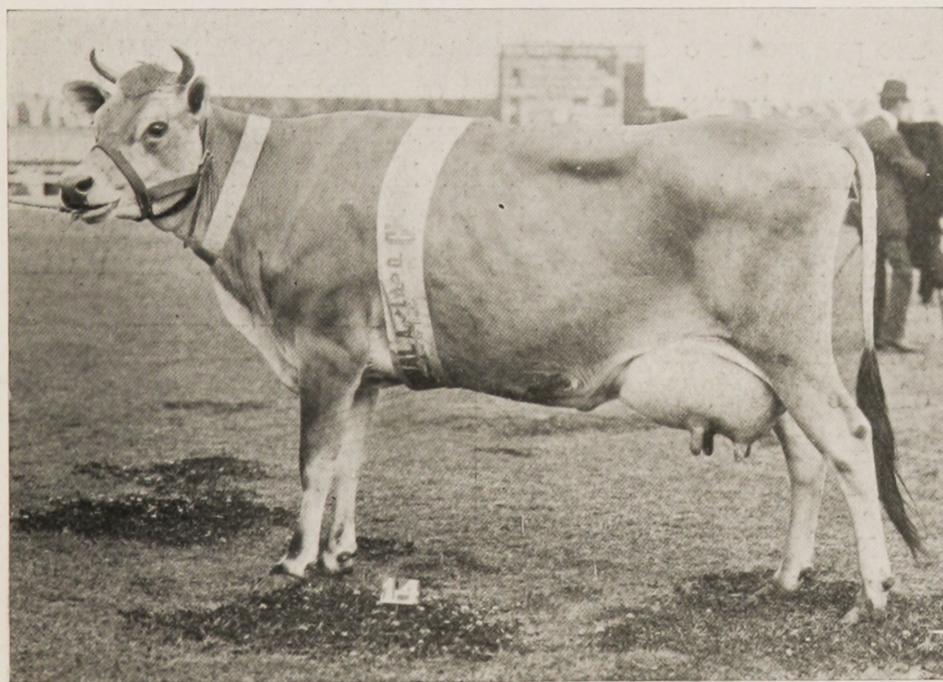


CHAMPION JERSEY BULL



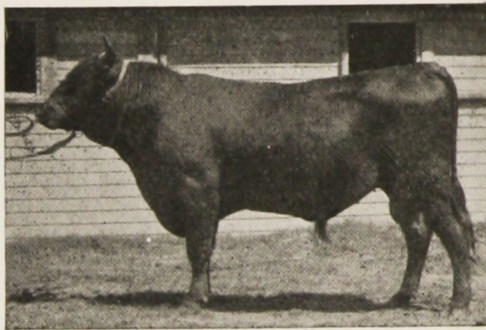


CHAMPION ILLAWARRA BULL



CHAMPION JERSEY COW





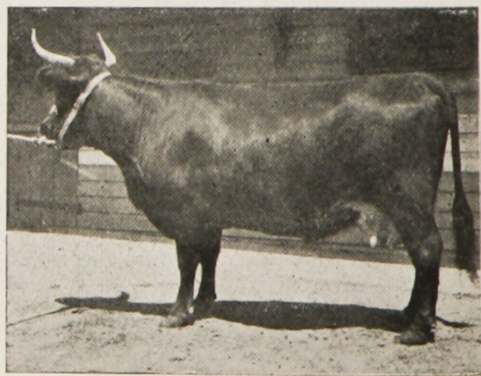
PUREBRED KERRY DEXTER BULL

Mr. Paten is equally as successful as a breeder and exhibitor of pedigreed Ayrshires, and Mr. Dunn is devoting his attention to the breeding of Illawarras of the best strain. At this year's Brisbane Show several of his purebred stock were singularly successful.

An average herd consists of from 30 to 40 head.

#### **COST OF STARTING A 160-ACRE FARM.**

The cost of starting dairying on a farm of 160 acres depends to a great extent upon the amount of capital the prospective dairyman has at his disposal. To attain anything like a fair measure of success the land, in the first place, must be within easy distance of a railway line or a factory ; then, it must be land suitable for dairying purposes ; and, finally, it must be fairly cheap land. Land meeting all these requirements of the man with small capital can be obtained in different portions of the State, more particularly at Gayndah, in the Burnett district, and at Atherton and Herberton, in the Cairns hinterland. The average price of the Gayndah lands is 30s. per acre, and that in the

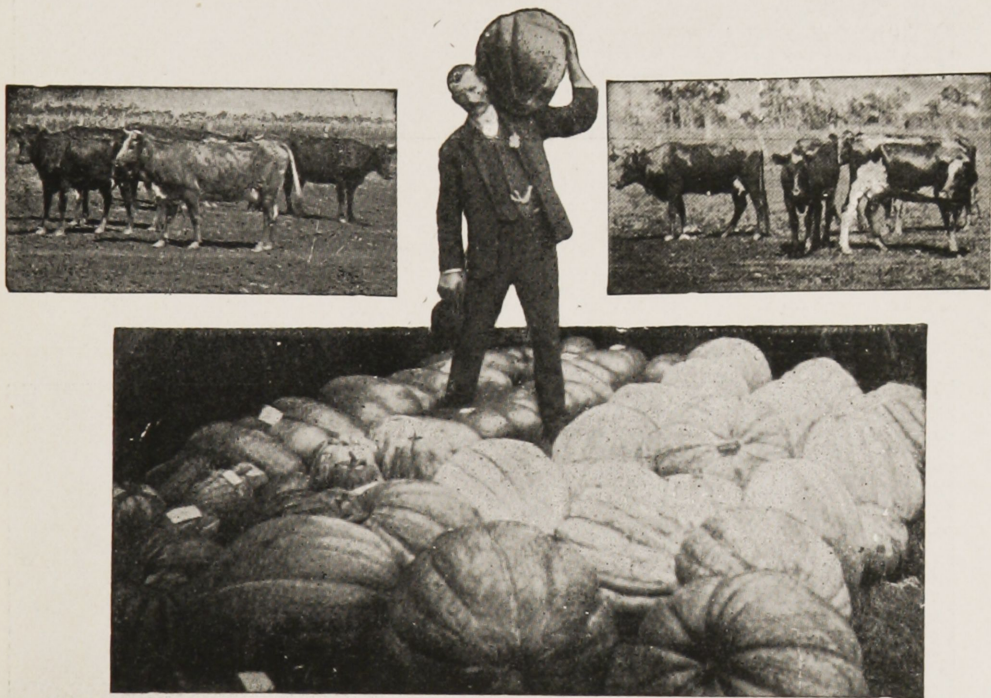


PUREBRED KERRY DEXTER COW



Cairns hinterland can be obtained at an average price of £2 per acre. Of course, cheaper land is obtainable, but that for which the Crown asks 10s. per acre is in remote districts, and a considerable distance, at present, from railway communication.

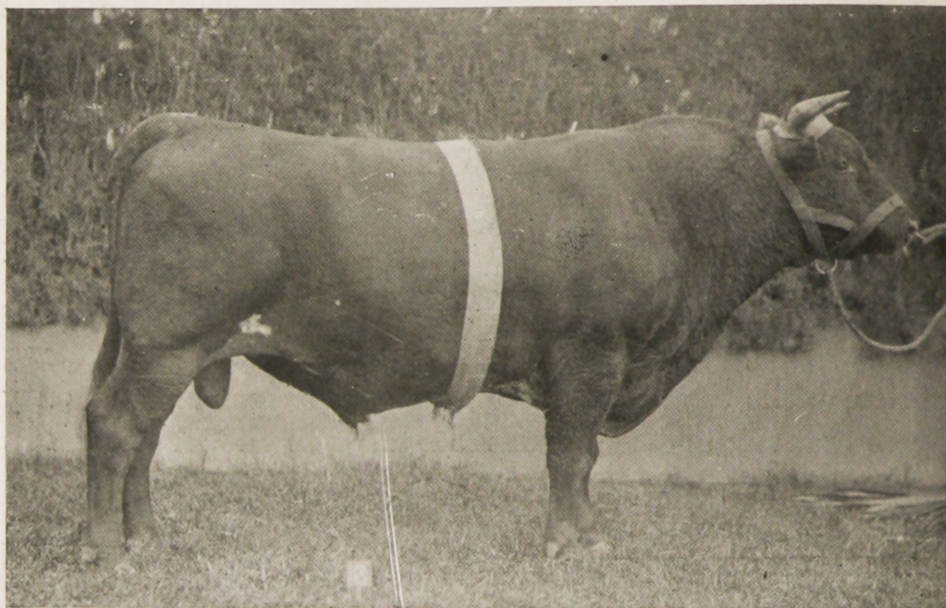
Crown lands can be obtained on the following terms :—First year's rent as deposit and one-fifth of the survey fees, the rent being one-fortieth of the purchasing price, while the payments extend over a period of twenty years With a capital of from £200 to £300 a man can



PUMPKINS FOR FEED.

commence operations as a dairyman with the utmost safety, but he must be prepared to put in, at least, one year of hard work. With an ordinary amount of luck, he should be on a fair way towards feeling his feet after the first year, and thereafter his establishment as a successful dairyman depends solely on his own management of affairs. Many of the successful dairymen of to-day started





CHAMPION SHORTHORN BULL



CHAMPION AYRSHIRE BULL





CHAMPION AYRSHIRE BULL, ST. HELENA PENAL STATION



PUREBRED AYRSHIRE COW



in a very small way, and for the first few years “roughed it” until circumstances warranted them improving their conditions.

It is for the express purpose of encouraging the small man to go on the land that special reference is being made here to this aspect of the dairying industry. To minimise the cost of starting a farm, it is very desirable that the intending settler should be a handy-man with tools: for instance, he should be able to erect his own temporary dwelling, milking-sheds and bails, dairy, fences, &c. And, if possible, he should endeavour to assist his less fortunate neighbours in getting their newly-acquired farms in ship-shape. By engaging in this latter class of work, he would be enabled to acquire sufficient funds to either effect permanent improvements on his own farm or reduce some of his liabilities.

Further, the man with a limited amount of capital

can obtain assistance from the State Agricultural Bank. Advances are made at the rate of £ for £ of an amount up to £200 for buildings (not exceeding £40), ringbarking, clearing, fencing, draining or water conservation; also to the extent of 12s. in the £ of the fair estimated value of the holding with the improvements made and proposed



DAIRY HERD ON NATURAL GRASSES



to be made. Advances are also made for the payment of liabilities existing on the holding, purchase of stock, implements, machinery, erection of stockyards, etc.

No security other than a first mortgage will be accepted as sufficient. At no time can the advance to any one person exceed £800.

The terms in regard to the repayment of the loans extend over a period of 25 years, with 5 per cent. interest added. Simple interest only is charged during the first five years.

Advances at the rate of £ for £ are not made on the security of prickly-pear selections.

Hereunder is an approximate estimate, based on official figures, of the

#### Cost of Starting a 160-acre Dairy Farm.

Crown Land at 30s. per acre—

	£	s.	d.
Rent : First year's deposit .. .. .	6	0	0
Survey fees—one-fifth .. .. .	1	18	0
Fencing—2 miles at £25 per mile (posts 12 ft. apart, and three barbs) .. .. .	50	0	0
Twelve cows at £6 per head .. .. .	72	0	0
Young bull .. .. .	10	0	0
Two horses at £22 10s. per head .. .. .	45	0	0
Three pigs (slips) .. .. .	1	10	0
Plough, harrow, and roller .. .. .	10	0	0
Harness .. .. .	5	0	0
Swingle-bars and chains .. .. .	1	5	0
Tools .. .. .	5	0	0
House .. .. .	50	0	0
Milking-shed and bails, and yard .. .. .	15	0	0
Dairy .. .. .	15	0	0
Separator (30 gals.) .. .. .	15	0	0
Dairy utensils .. .. .	2	10	0
Cart (second-hand) .. .. .	12	0	0
Clearing and grassing 10 acres (own labour) .. .. .	30	0	0
	£317	3	0



Of course, a farm of 160 acres would carry more than twelve cows, but this is about the number that the new settler could manage during the first year, at any rate, bearing in mind his limited funds and the great amount of labour involved in getting his farm in order. Under ordinary circumstances, 160 acres would, provided portion of the area were cultivated, carry from 30 to 80 head of stock.

During the first year on the land the new arrival would, at a very low estimate, obtain a return of about £80 for the milk and cream from his herd of twelve cows. These cows would also produce about six heifers and a like number of steers. At £1 per head the former would represent an asset of £6 for the first year, and considerably more when they became producers. The steers would readily bring, at least £1 10s. per head in the market, or a total return of £9. The pigs, too, would have increased in numbers in the meantime, and the income from this source could be safely put down as £10. At least, an acre could be put under English potatoes, and the return therefrom would be about £20. Other crops, such as maize, sweet potatoes, and pumpkins could also be grown in small areas, and a further £20 would be realised for this produce in the market. A study of the above figures will show that the income of the selector in question during the first year would be, at least, £145. Roughly speaking, the sustenance of himself and family would entail an expenditure of from 20s. to 25s. per week.

One dairy farmer in the West Moreton district, who landed in Queensland some years ago with 1s. 6d. in his pocket, now has 160 acres of freehold, of which he cultivates 50 acres for feed for his cows and pigs. He began by working for his neighbours for the first few years, and thus gained both cash and experience. He now milks 30 to 50 cows the whole year round, and he makes from £150





PUREBRED SHORTHORN HEIFER

to £180 a year from his pigs. His income from all sources is from £400 to £500 per annum. A few years ago he paid £1,100 for the place, but to-day he would not take £3,000 for it, and there is not a penny of debt on the property.

### THREE PRACTICAL CASES.

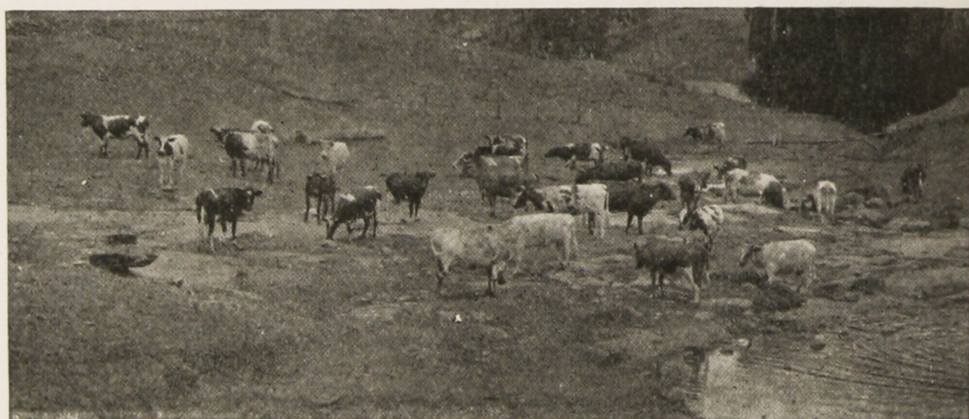
In March, 1911, Messrs. Jas. Anderson, Thos. Irwin, and P. C. Anderson (the two last-named from the Hunter River, New South Wales) selected blocks of the Boonara Estate, near Goomeri, in the Burnett district. These selectors, who were practical and handy men in every sense, had more than an ordinary amount of capital with which to make a start. They, however, expended their money economically, and in this respect they supply a valuable object lesson. Owing to the greater portion of the estate being used for the grazing of sheep and cattle, there was not much clearing for the selectors to do, and the bulk of the trees thereon had been ringbarked, thus insuring an abundance of nutritious blue grass for the stock. The land was sold by auction on easy terms and conditions, the payments extending over a period of twenty years. After the payment of the deposit, the selectors were not asked for any of the principal until the expiration of two years, though interest at the rate of 5 per cent. was claimed



PUREBRED JERSEY HEIFERS



every six months during the first two years of occupation ; thereafter they had to pay a moiety of the principal every year, with 5 per cent. interest added, until their total indebtedness was liquidated.



CATTLE SCENE ON SWAN CREEK, NEAR WARWICK, S.Q.

Mr. J. Anderson took up 200 acres, for which he paid £5 ls. 3d. per acre, and his outlay during the first year was as follows :—

	£	s.	d.
Deposit .. .. .	100	0	0
House of four rooms and veranda—reinforced concrete (own labour) .. .. .	70	0	0
Fencing—2½ miles with posts and two barb wires ..	40	0	0
Yards and bails .. .. .	14	0	0
Dairy (wood), 8 ft. x 8 ft. .. .. .	8	0	0
Barn (slab) .. .. .	7	0	0
Well (slabbed), 12 ft. deep .. .. .	4	0	0
Pigsties .. .. .	12	0	0
Horses—2 £40, 1 £9 .. .. .	49	0	0
Implements—single disc plough, harrows, log-roller..	21	5	0
Cart .. .. .	10	0	0
Separator (60 gals.) .. .. .	25	0	0
Dairy utensils .. .. .	2	0	0
Eighty cows at £5 per head* .. .. .	400	0	0
Cultivating 20 acres at 30s. per acre (own labour) ..	30	0	0
	£792	5	0

\* The selector purchased young springers from the owners of the estate, and paid for them at the rate of 5s. per head per week.



Mr. Anderson milked 40 cows during the year, and in April last his cheque for milk and cream amounted to £38, while in August and September he received two cheques for £26. The receipts for the first year totalled £400—£300 for cream, and £100 from the sale of pigs. The stock were fed on natural grasses. He expects his second year's receipts to amount to, at least, £650. He has 20 acres under maize and potatoes.



CROP OF 8 MONTHS OLD RHODES GRASS AT ATHERTON, N.Q.  
(5 FT. HIGH)

Mr. Irwin purchased  $122\frac{1}{2}$  acres at £7 15s. per acre.

	£	s.	d.
Deposit .. .. .	95	0	0
House—four rooms (wooden), partly own labour ..	110	0	0
Fencing—2 miles (two barb and one plain wires) ..	46	0	0
Yards and bails .. .. .	22	0	0
Dairy (wooden, with cement floor) .. .. .	9	0	0
Horses—2 £44, 2 £20 .. .. .	64	0	0
Harness .. .. .	12	0	0
Implements—single disc and mould ploughs, harrows, log-roller, scarifier .. .. .	27	2	6
Separator (65 gals.) .. .. .	27	10	0
Dairy utensils .. .. .	6	0	0
Sulky (used for cartage of milk, &c.) .. .. .	7	0	0
27 cows at £4 10s. .. .. .	121	10	0
Cultivating 15 acres at 30s. per acre .. .. .	22	10	0
	£569	12	6



He milked regularly twenty-one cows, which were fed on lucerne and oats during the winter. In June these cows earned £18 10s., July £15 5s., and August £19, while for the year they returned £180. He had 15 acres under cultivation, including 3 acres of lucerne,  $\frac{3}{4}$  acre potatoes, 3 acres oats ; a further 7 acres has been planted with lucerne. None of the crops were marketed.



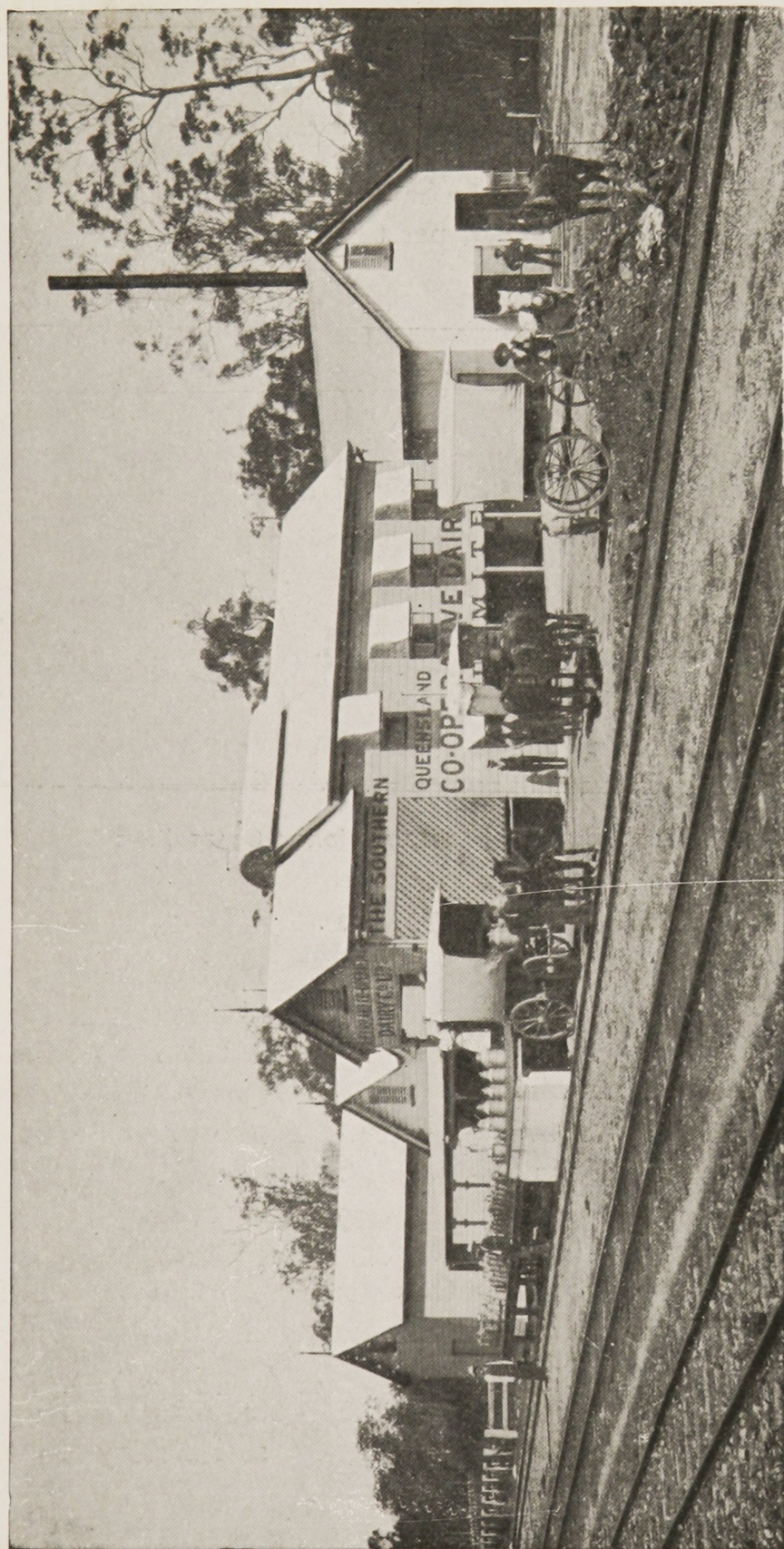
1. PEDIGREED HOLSTEIN BULL AT BENJURGEN, S.Q.
2. COOCHIN-COOCHIN FLATS IN THE DISTANCE

Mr. P. C. Anderson selected 139 acres, and paid £5 5s. per acre therefor.

	£	s.	d.
Deposit .. .. .	70	0	0
Fencing—50 chains (two barb and one plain wires)*..	12	0	0
Four-roomed wooden cottage .. .. .	130	0	0
Yards and bails .. .. .	15	0	0
Dairy (iron, with cement floor) .. .. .	7	0	0
Two horses .. .. .	58	0	0
Harness .. .. .	6	10	0
Dray .. .. .	10	0	0
Seventeen cows at £4 15s. .. .. .	80	15	0
Clearing and cultivating 28 acres .. .. .	42	0	0
Implements—single mould plough, harrows, log-roller, scarifier .. .. .	10	5	0
Separator (60 gals.) .. .. .	25	0	0
Dairy utensils .. .. .	4	0	0
Pigsties .. .. .	5	0	0
	<hr/>		
	£475	10	0

\* Portion of the block was fenced on two sides when taken up.





THE SOUTHERN QUEENSLAND CO-OPERATIVE DAIRY COMPANY'S BUTTER FACTORY, KINGSTON



From twelve to fourteen cows were milked during the first year, and these returned about £80. He has 12 acres under lucerne, from 9 acres of which he has had several cuttings. This he has had chaffed, and sent into market, realising £7 10s. per ton. About 8 acres have been planted with maize and potatoes.

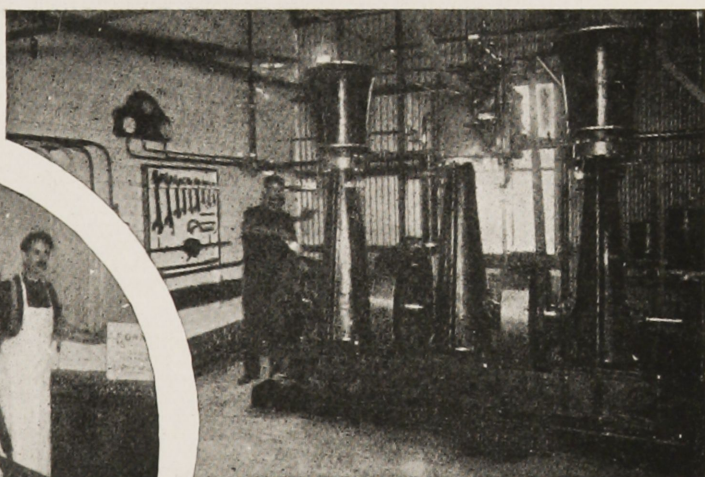
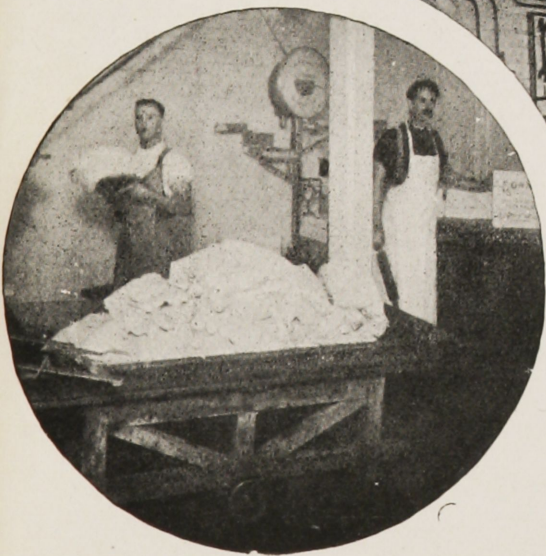
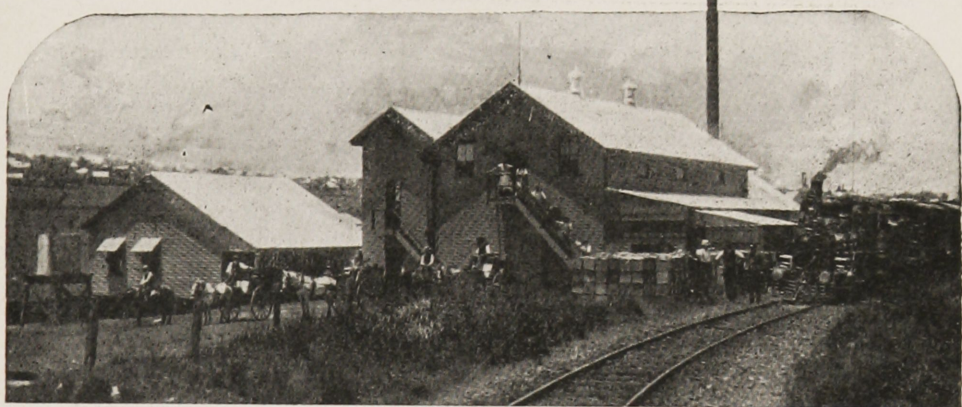


TIARO BUTTER FACTORY, NORTH COAST LINE

### DAIRYING ON THE SHARE SYSTEM.

A fair amount of dairying in Queensland is done on the share system—that is to say, the owners of large estates and agricultural holdings cut them up into a number of small dairy farms, and arrange with experienced dairymen to run them. The owners of these estates and holdings fit up the farms with all the necessary appointments, such as buildings, dairies, stock, implements, &c., and the profits are shared equally between the parties concerned. On Coochin Coochin Station, in the Fassifern district (South Queensland) this method of dairying is largely indulged in. A similar state of affairs exists in other portions of the State, and the results derived therefrom are eminently satisfactory to all





BUTTER-MAKING AT DARLING DOWNS  
CO-OPERATIVE COMPANY'S FACTORY,  
TOOWOOMBA



concerned. There is, however, room for considerable expansion in this direction, as many of the larger agricultural holdings are not, at present, being used to the fullest advantage.

### **EXPANSION OF THE BUTTER TRADE.**

Queensland has reason to be proud of the high standard of her butter. Knowing this, it is not to be wondered at that its high-grade texture, flavour, and general excellence command for it top prices in the London and Continental markets. The installation of



PUREBRED LINCOLN RED HEIFER

cold storage chambers on the ocean liners trading with Australia has opened up markets with Great Britain, Asia, South Africa, Java, the Philippines, China, and Japan for Queensland butter. There is no gainsaying the fact that this State will, in the near future, figure even more prominently in the butter world than it does at present.

Thanks to the assistance and encouragement given, and the careful supervision exercised by the Government, proprietary and co-operative factories have been estab-



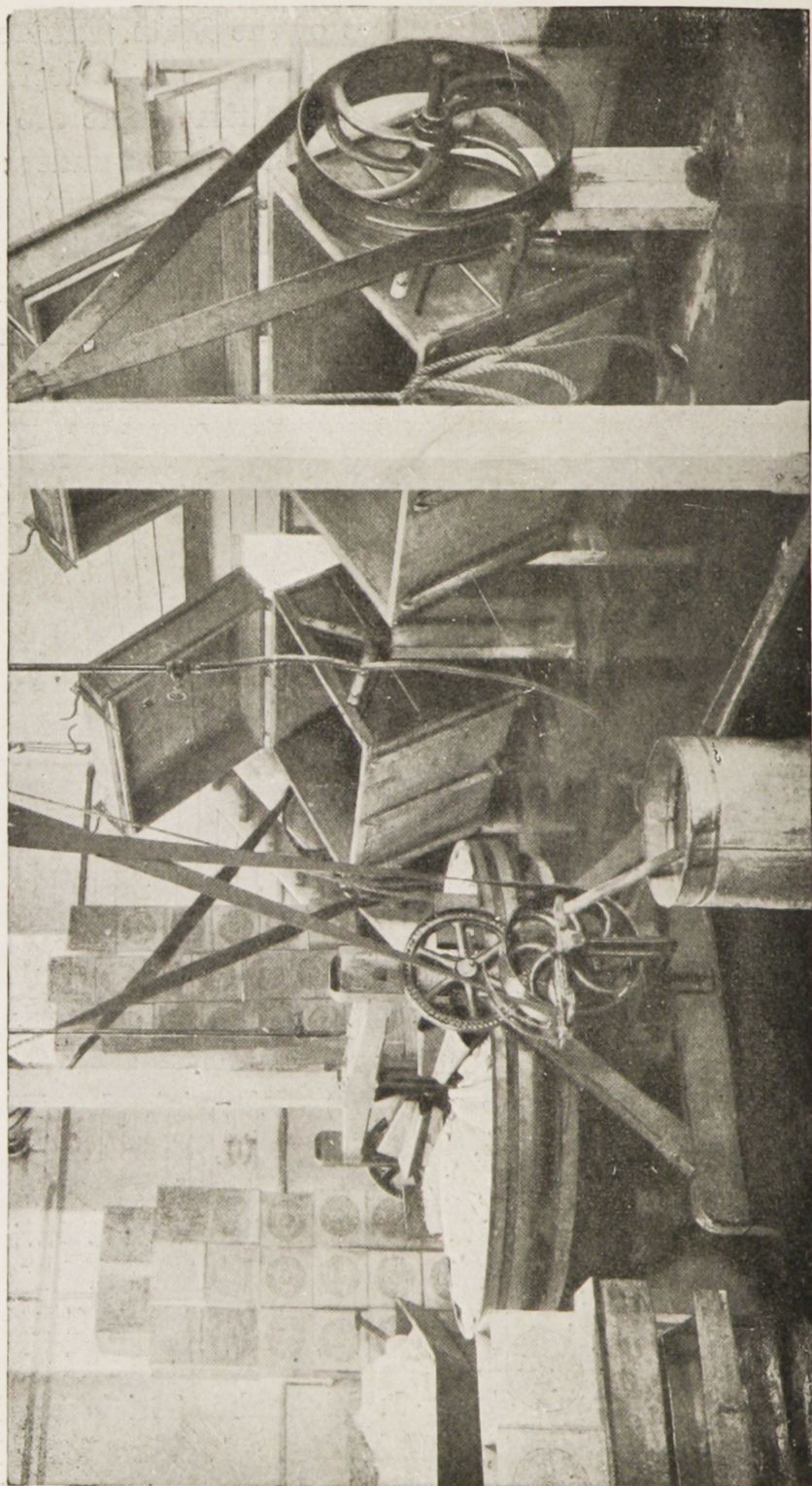
lished in all the principal centres of the State. The co-operative concerns, in particular, have given a decided fillip to the industry. At the present time there are 48 factories in Queensland, their situation being as under :—  
 Atherton, Cairns hinterland (North Queensland), 1 ;  
 Central Queensland (5)—Rockhampton 4, Gladstone 1 ;  
 Wide Bay and Burnett districts (8)—Maryborough, Tiaro, Gympie, Kingaroy, Biggenden, Nanango, Bundaberg, Gayndah ; Maranoa district (South Western Queensland),



QUEENSLAND FARMERS' CO-OPERATIVE CO'S BUTTER FACTORY  
 AT BOOVAL (NEAR IPSWICH)

1—Roma ; Darling Downs (14)—Warwick 1, Toowoomba 1, Crow's Nest 1, Goombungee 1, Pittsworth 1, Oakey 1, Mt. Bismarck 1, Allora 1, Clifton 1, Jandowae 1, Dalby 1, Chinchilla 1, Texas 1, Miles 1 ; Ipswich and West Moreton districts (11)—Ipswich 2, Marburg 1, Walloon 1, Purga 1, Booval 1, Esk 1, Gatton 1, Laidley 1, Grantham 1, Boonah 1 ; Brisbane and East Moreton (8)—Terror's Creek 1, Pinkenba (Brisbane) 1, Kingston 1, Beaudesert 1, Caboolture 1, Woodford 1, Maleny 1, South Brisbane 1. (*See also* map elsewhere in this book.)





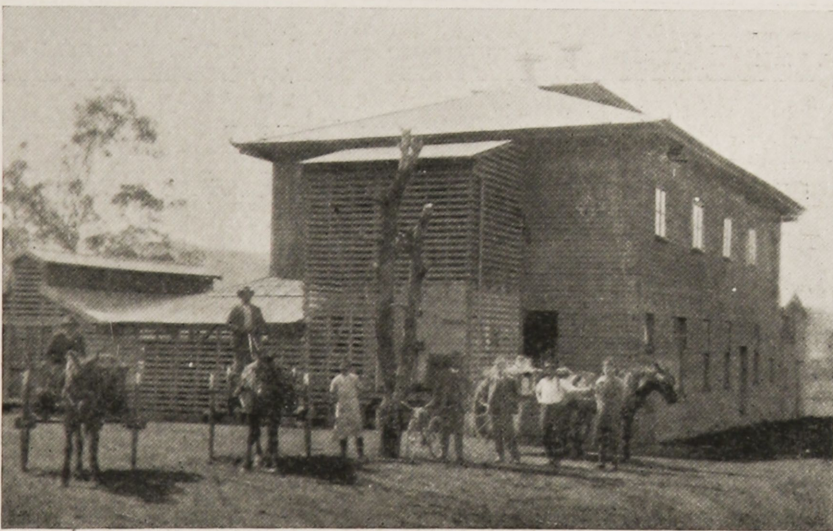
INTERIOR OF BUTTER FACTORY AT KINGSTON





CAMBOOYA CHEESE FACTORY (DARLING DOWNS)

Outputs of butter from some of the factories for 1911 :—Queensland Farmers' Co-operative Company, Booval, Grantham, Boonah, and Laidley factories, 1,531 tons annually ; Maleny Co-operative Dairy Company, in the Blackall Range district, about 30 tons monthly ; South Queensland Co-operative Dairy Company, Kings-



YANGAN CHEESE FACTORY (DARLING DOWNS).



ton, South Coast Line, over 640 tons annually ; Logan and Albert Co-operative Dairy Company, Beaudesert, South Coast Line, over 292 tons for six months ; Warwick Co-operative Dairying Company (Darling Downs), 367 tons for six months ; Downs Co-operative Dairy Company ; Toowoomba (Darling Downs), 81 tons in August last ; Port Curtis Co-operative Dairy Company, Gladstone (Central Queensland), over 100 tons annually.

Steps are also being taken to establish a number of other co-operative factories in different districts throughout the State.



ROSEVALE CHEESE FACTORY

The quantity of butter produced in 1911 was 27,858,535 lb., valued at £1,242,555.

### CHEESE FACTORIES.

The manufacture of cheese is also assuming big proportions in Queensland, and the high quality of the product insures for it the best price in the Southern markets. Connoisseurs pronounce it to be equal to the best Canadian and New Zealand cheddar cheese. There are altogether twenty-five factories :—Darling Downs (20)



—Pittsworth 2, Southbrook 2, Zahley 2, Back Plains (Clifton) 1, Warwick 1, Clifton 1, Cambooya 1, Greenmount 1, Inglewood 1, Kooroongarra 1, Leyburn 1, Mt. Domville 1, Ramsay 1, Bringalilly 1, Tannymorel 1,



EXPORT OF  
BUTTER OVERSEA

Yangan 1, Goombungee 1 ; North Coast Line (2)—Teutoberg, Obi Obi (Nambour) ; South Coast Line (2)—Mudgeeraba, Tabragalba ; Ipswich district (1)—Rosevale.



The quantity of cheese produced last year totalled 3,718,257 lb., valued at £89,084. The factories were responsible for the manufacture of 3,633,886 lb., and the balance (84,371 lb.) was made on the farm.

### **CONDENSED MILK FACTORIES.**

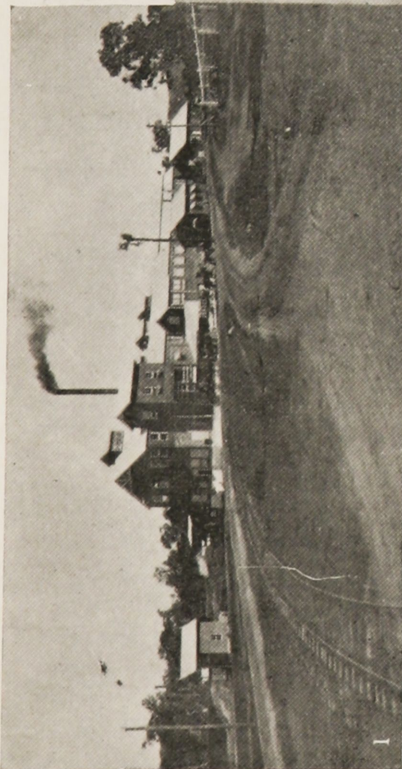
The condensed and concentrated milk industry has made remarkable expansion of recent years. To-day there are six factories, distributed as under :—Toogoolawah, Colinton, and Lowood (Brisbane Valley district), Wilson's Plains (Fassifern district), Gowrie and Wyreema, near Toowoomba (Darling Downs). The average price paid by the factories for milk is 5 $\frac{3}{4}$ d. per gallon.



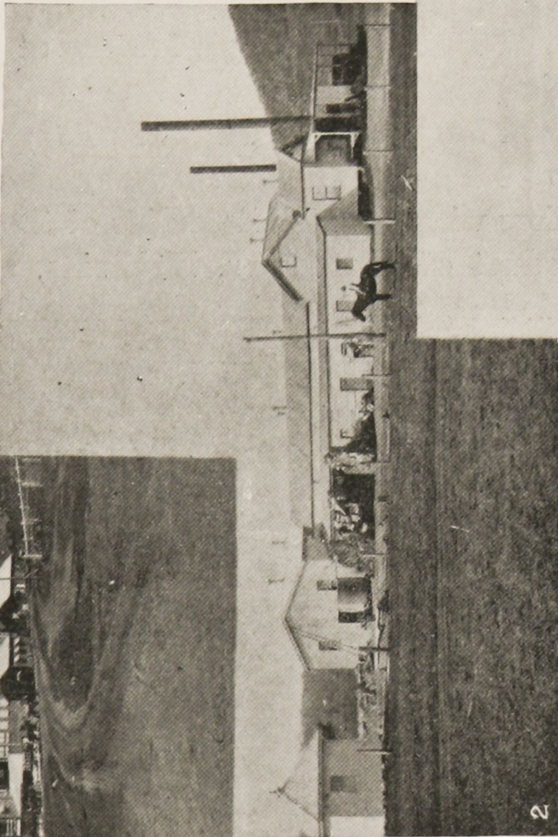
JERSEYS AT KELVIN GROVE (BRISBANE)

The Nestle and Anglo-Swiss Condensed Milk Company's factory at Toogoolawah has a capacity for the manufacture of 220,000 cases annually, and gives employment to from 60 to 130 hands during the year. The factory at Wilson's Plains also belongs to this company. To date this company has invested £75,000 in the milk condensing industry. The total quantity of milk treated annually at the Toogoolawah factory aggregates 2,600,000 gallons, of which about one-sixth is supplied by the company's model farms at Toogoolawah. The sum paid to suppliers for milk during the year amounts to £62,000. The company's annual output of condensed milk is valued at £220,000.

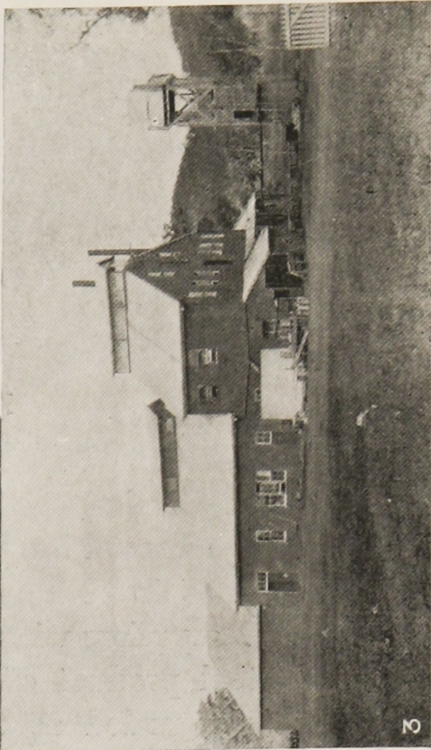




(1.)  
NESTLE AND ANGLO-SWISS  
CO., TOOGOO LAH

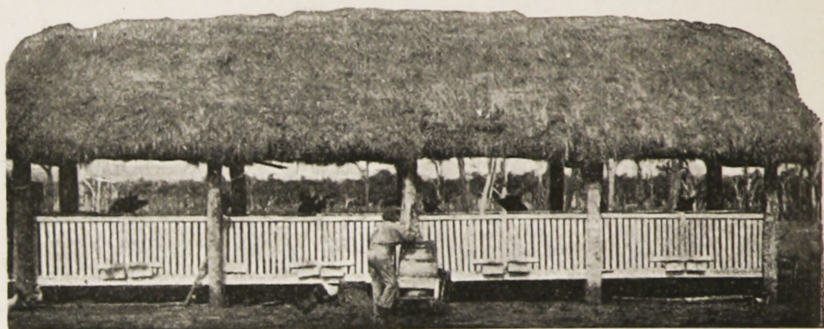


(2.)  
GOWRIE DAIRY SUPPLY LTD.,  
GOWRIE (DARLING DOWNS)



(3.)  
STANDARD DAIRY CO., LTD.,  
COLINTON





FEEDING PIGS

The Standard Dairy Company's factory at Colinton (Fassifern district) can treat 5,000 gallons of milk daily, its average annual output is from 40,000 to 50,000 cases, and from 35 to 50 hands are employed during the year. It has 60 suppliers within a 10-mile radius of the factory. The lacteal product of Shorthorns, Holsteins, and Ayrshires is regarded as the best for the manufacture of condensed milk. This company's factory at Wyreema has a capacity for dealing with 2,500 gallons of milk daily, the average annual output is from 30,000 to 40,000 cases, and from 25 to 30 persons are employed. There are 40 suppliers within a radius of 6 miles. A depôt has been established at Umbiram, on the Pittsworth line, as a feeder to the factory at Wyreema; the manufacture of cheese is also carried on at this depôt.

The annual output at the factory of the Gowrie Dairy Supply, Limited, at Gowrie Junction, near Toowoomba, is estimated at 50,000 cases, and the sum of £1,000 is paid to suppliers of milk every month, the quantity of milk treated annually being 800,000 gallons.

The Bacchus Marsh Concentrated Milk Company's factory at Lowood is capable of dealing with 1,000 gallons of milk per day, and the output for the same period is from 30 to 50 cases.

The quantity of condensed milk manufactured in the State last year totalled 6,227,510 lb., valued at £138,513.



## BACON FACTORIES.

The pig-raising industry is a valuable adjunct to that of dairying. Most of the dairymen engage in both these industries, and they are well repaid for doing so. Pig-raising is assuming large proportions, and the superior quality of the bacon and hams manufactured has earned renown for Queensland in different parts of the world. Last year 11,667,654 lb. of bacon and hams were manufactured, the value thereof being £397,494. The value of the exports for the same period was nearly £53,000. Two-thirds of the production came from the Brisbane



BERKSHIRE BACONERS AT ZILLMERE STUD FARM

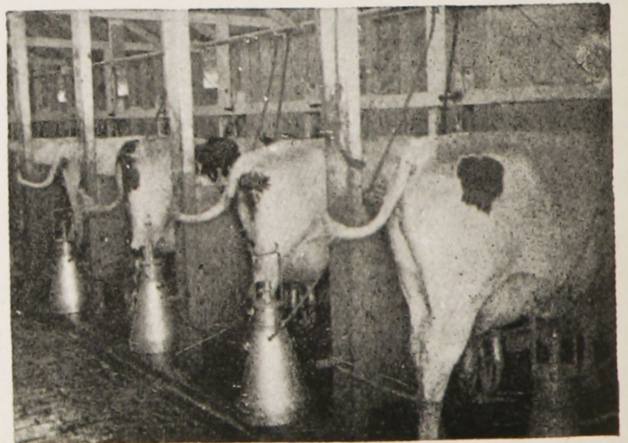
district. A cross between the Yorkshire and Berkshire is regarded as the best type of pig to raise, as they can be fattened up for sale in about seven months. The factories of the State number only five, but the establishment of several others is spoken of. In the Brisbane district there are three—at Zillmere, Oxley, and Murarrie ; and Boonah (Fassifern district) and Toowoomba (Darling Downs) one each. Two of the above factories are proprietary concerns,



and the remainder are conducted on co-operative principles. The amount paid away monthly to the pig raisers of the State is from £25,000 to £30,000, the average price per lb. being from 4d. to 5d.

Last year there were 173,902 pigs in the State.

The J. C. Hutton Proprietary factory at Zillmere (Brisbane) is capable of handling about 3,000 pigs per week. A small stud farm is carried on in connection with this factory, the types of pigs reared being Berkshires and Yorkshires. The services of the purebred boars are placed at the disposal of the pig-raisers, but only a limited number of sows are served at a time.



MILKING METHODS: OLD AND NEW





### **MILKING METHODS : OLD AND NEW.**

Though there are many makes of milking machines on the market, this expeditious means of handling the cows has not been generally adopted by dairymen. Many of the dairymen and manufacturers are strongly opposed to the universal establishment of milking machines in dairies, but the time is near at hand when large suppliers of milk and cream will be compelled to adopt the more modern method of obtaining the lacteal product from their cows. Labour conditions, if nothing else, will force their hand in this direction. On an average one milker can put through from 7 to 10 cows per hour, whereas a milking machine, with two-cow plant, will milk from 20 to 30 animals in the same time. The initial outlay on these machines may be regarded as heavy, but the dairyman has not to wait long before he realises the economical and beneficial advantages to be derived therefrom.

### **STATE AID TO THE INDUSTRY.**

In addition to the generous assistance given to dairymen by the State Agricultural Bank, advances are also made by the Government to enable the establishment of co-operative factories. The loans extend over a period of fourteen years, on which 4 per cent. interest is charged. The administration of this fund has given a decided stimulus to the dairying industry, so much so, indeed, that last year's products from this source alone aggregated over £2,000,000. More than half of this sum was



represented by butter. The satisfactory position held by Queensland butters in the London and Continental markets to-day is due to the good work carried out by the Department of Agriculture and Stock. Experts from this Department impart instruction to dairymen in scientific methods ; factories and dairies are subjected to a careful inspection periodically, particular attention being paid to the sanitary side of affairs ; and all butter intended for export is analysed, graded, marked, and weighed. It is because of this strict supervision that



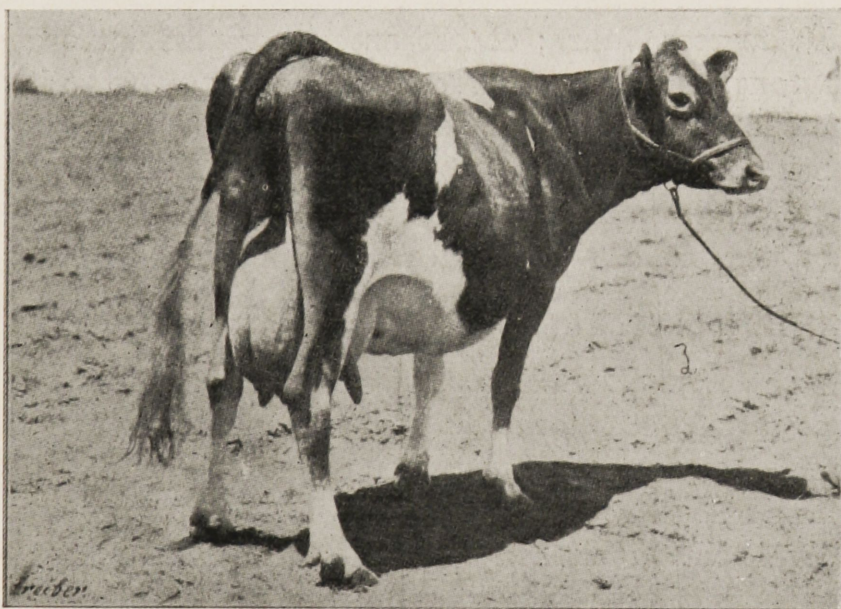
TYPE OF PUREBRED GUERNSEY BULL

Queensland butters are so favourably known in the markets abroad. As a further evidence of the interest taken by the Department of Agriculture and Stock in the industry, a Stock Experimental Station has been established at Yeerongpilly, where investigations are made by bacteriologists into the most effective means of safeguarding against outbreaks of disease among stock of all kinds.

For many years the inspection and examination of butter for export was solely a State matter, but recently



the Federal Government of Australia, with a view of creating a uniformity in the exports from Australia, decided to assume control of the grading and marking. It is worthy of note, however, to state that the system in vogue in Queensland was adopted by the Federal authorities almost in its entirety. The standard stipulates that butters must not contain less than 82 parts per centum of butter fat, not more than 16 per centum of water, and not more than  $\frac{1}{2}$  per centum of boric acid ; and also must not contain any harmful colouring ingredients.



TYPE OF PUREBRED GUERNSEY COW.

Shipments of butter are made every alternate week to Great Britain, Europe, and the East by a number of the larger ocean-going vessels, particularly those belonging to the Orient, Aberdeen, and Federal Houlder lines ; and also other vessels, which are fitted with refrigerated chambers.

#### **COLD STORAGE FACILITIES.**

If evidence were wanting of the rapid expansion made in the dairying industry of recent years, it is abundantly



supplied by the necessity which has arisen for increased cold storage space. For years the Railway Cold Stores at Roma Street, Brisbane, provided ample accommodation, but these are no longer adequate for existing requirements. New cold stores have been established on the Roma Street frontage, and these have been installed with all the most modern machinery and appliances. The refrigerating plant consists of two of the latest types of Haslem wet-compression machinery, fitted with double-pipe condensers, and having a capacity of 65 tons. The storage space totals 700 tons—butter 500 tons, with a temperature of 10 degrees Fahr.; cheese and other perishable goods 200 tons, the temperature being arranged to suit the different classes of goods stored. The building, which is of brick and cement, is 300 ft.  $\times$  50 ft., divided into two floors. There are ten rooms, 40 ft.  $\times$  20 ft., for butter, and six rooms of similar size for cheese, &c.

#### **MUNICIPAL ENCOURAGEMENT.**

The Longreach Shire Council, the town of the same name being at the terminus of the Central Line, has set a splendid example for many of the other country local governing bodies to follow. In 1907, and at frequent intervals since, this body purchased six pedigreed Short-horn bulls of the milking strain in order to improve the breed of the dairy herds in the district. These bulls are







WOOD STAVE SILOS ON  
NESTLE AND ANGLO-SWISS  
C.M. CO.'S FARMS,  
TOOGOOLOWAH

allowed to run on the town reserve with the cows on agistment there, the fee charged for their services being only 5s. per cow. The total cost of the bulls to date, including their maintenance, has been £257 18s. 11d., while during the same period (1907 to September, 1912) they have earned £272 12s. 6d. The advent of these animals in the district has given a healthy stimulus to the industry, and present conditions point to the likelihood of much development taking place in the near future.

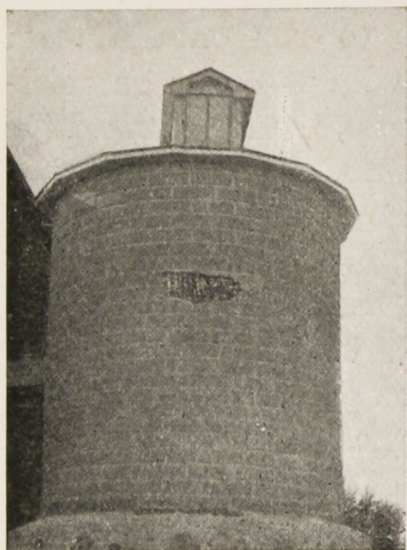
### CONSERVATION OF FODDER.

The advantages of conserving fodder for the feeding of stock during the winter are manifold, and every dairyman who makes ample provision in this direction is amply rewarded for his labours. The best crops to grow for winter feeding are lucerne, barley, wheat, rye, oats, sorghum, maize, panicum, millets, cow-pea, &c. Then this fodder must be stored, and there are, at least, two advantageous ways in which this can be done. The first, and most important, is by the erection of a tub or pit silo, and, secondly, by means of a stack silo either in a shed or out in the open on the farm. This, of course,



WOOD-FRAMED SILO IN  
THE BURNETT DISTRICT





CONCRETE BLOCK SILO

introduces the question of the necessity of making ensilage. To the dairyman this form of stock feeding is fraught with great possibilities, and to a great extent the future success of the industry is closely associated therewith. The general adoption of this scientific and modern method of feeding has a decided tendency to place dairying on even a higher plane than it occupies in Queensland to-day. The fairly

heavy expense involved in the erection of a silo is amply compensated for by the gratifying results accruing from their universal establishment in all dairying centres. A fair percentage of the dairymen have already adopted this method of conserving winter fodder,

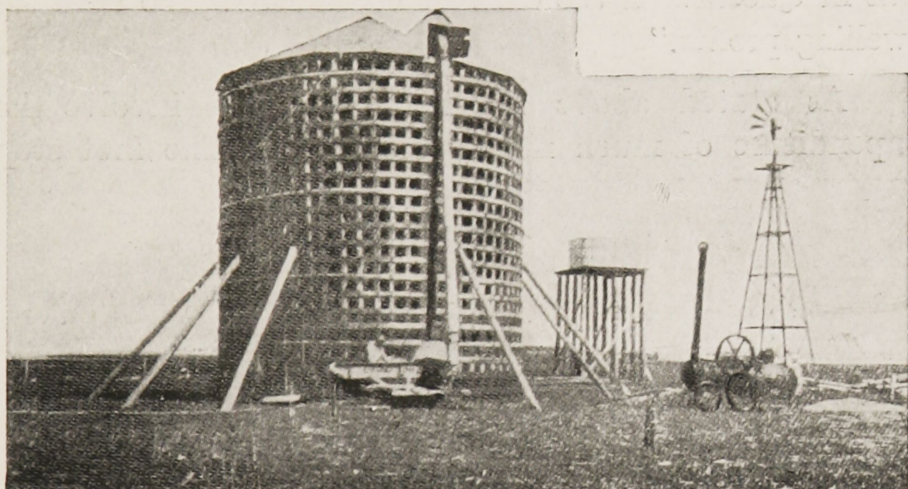


STACK SILO

and are now reaping substantial benefits for doing so. Last year there were 97 farms in the State making ensilage, which aggregated 5,804 tons, and was valued at £12,000.



When advised to go in for a silo, the first question asked by the dairyman is : What will it cost ? Well, that depends entirely upon the conditions obtaining in the locality in which the farm is. In districts where circumstances are reasonably favourable—that is to say, within close proximity to railway communication, or where



WOOD-FRAMED SILO ON THE DARLING DOWNS

suitable materials are available—the approximate cost for the different kinds of silos would be as under :— Concrete, cement, or reinforced concrete, 20s. per ton ; wooden, 12s. 6d. per ton ; galvanised iron, lined with concrete, 15s. per ton ; stack, or field, silo, cost of labour only. The general run of silos have a capacity of 100 tons, the ensilage is made with a chaff-cutter driven by motive power, and they are filled by either an elevator or blower. Maize, sorghum, millets, and in some cases lucerne, are used for the making of ensilage. Were all the dairymen of Queensland to go in for even a stack silo on their farms they would be provided with a valuable stand-by for their herds during the winter and any periodic dry spells.



Mr. E. Graham, the Queensland Government Dairy Expert, says :—" The general use of silos should place Queensland in the premier position of any dairying country in the world, and be an insurance against the 'dry snaps' we, from time to time, must face. . . . Canada boasts of over half a million silos. The cold winter conditions make the silo essential in such countries, but in Queensland the ensilage could mostly be used for swelling profits."

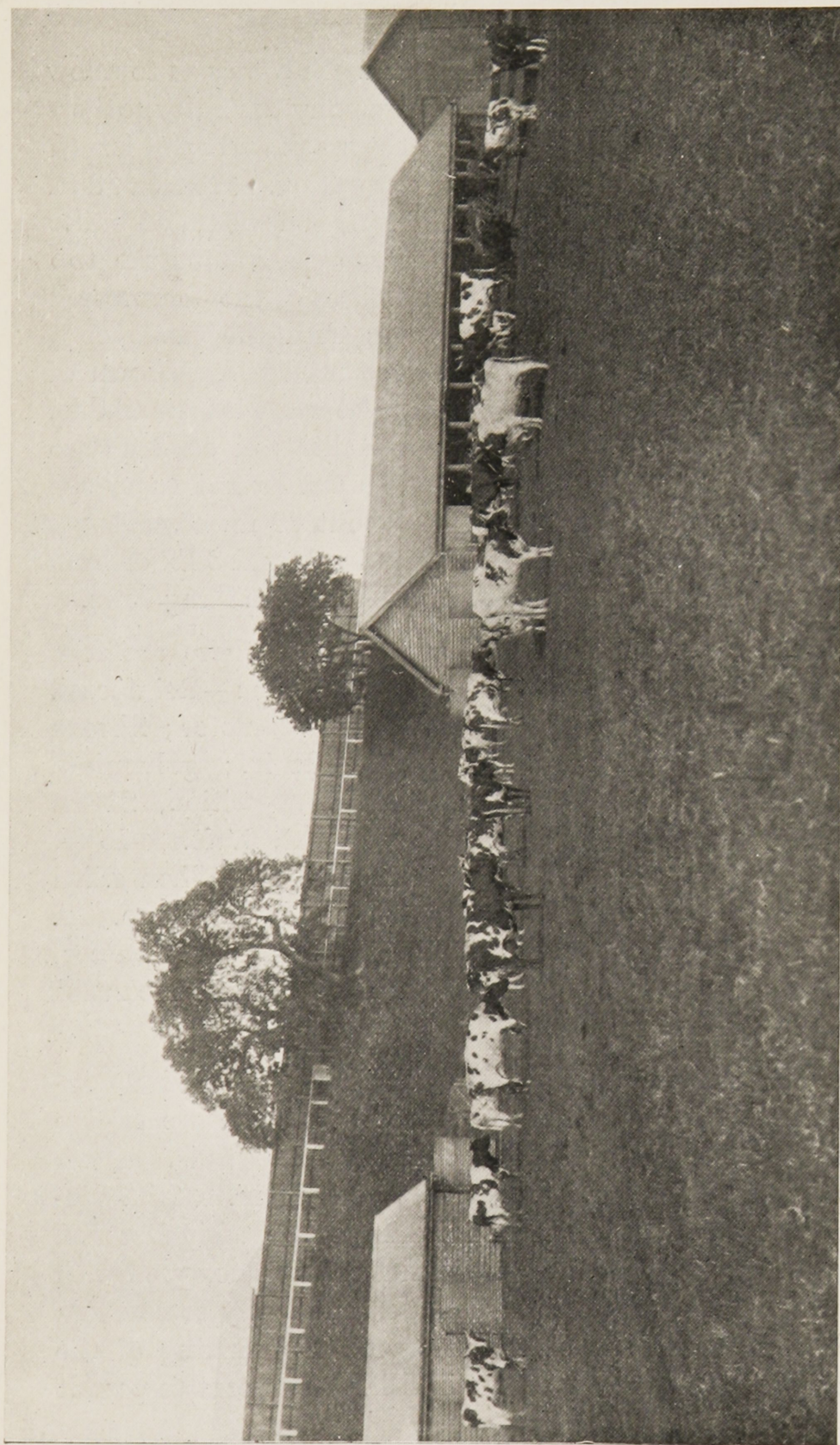
As stated above stack silos do not involve the expenditure of much money or labour. The first step



FEEDING THE HERD ON LUCERNE HAY

towards its erection is the placing in position of a framework, consisting of round uprights, braced together at the ends and in the centre. Then a layer of corn-stalks are placed lengthwise, the ends being carried out about 3 ft. in a line formed by the two extreme pairs of uprights. Care must be taken that each layer of fodder is evenly pressed down. The composition of the ensilage can be varied with alternate layers of panicum, sorghum, millets, &c. When the stack has been built up to the required height, it can be capped with a layer of straw, grass, or





PUREBRED AYRSHIRE HERD AT ST. HELENA PENAL STATION



earth, but this should be put on in such a way as to allow of rain-water running off it without any difficulty, otherwise the water would penetrate the stack and spoil it. In this manner a rectangular stack, say 30 ft.  $\times$  14 ft.  $\times$  8 ft. high, and with a capacity of about 50 tons could be built. When the ensilage is ready for use portion of the top covering should be removed, and slices of the compressed fodder taken off one of the ends with the blade of a scythe. As soon as cattle become used to this form of feed they will not touch anything else while it is available. The milk and cream producing qualities of ensilage are almost incalculable, as is demonstrated by the improved quantity and quality of both. About 40 lb. of ensilage, 16 lb. of lucerne and oaten chaff mixed, and 3 lb. of bran are regarded as an ample daily ration for milking cows.

At the Gatton Agricultural College there are four silos, the construction of which is as follows :—Reinforced concrete, 24 ft. high, with 17 ft. diameter ; fibrous cement, lined with concrete, 24 ft.  $\times$  19 ft. ; galvanised iron, lined with Portland cement composition, 21 ft.  $\times$  14½ ft. ; and a pit (hewn out of rock), 27 ft.  $\times$  15 ft. The three first-named are of tub design. When filled the four silos contain about 400 tons of ensilage. A steam engine is used for driving an Ohio chaff-cutter, and the raw ensilage is carried into the silos by means of an endless chain elevator.

On the farms of the Nestle and Anglo-Swiss Condensed Milk Company at Toogoolawah there are twelve silos, each of which has a capacity of 100 tons. These are all tub-shaped, and are constructed of 6 in.  $\times$  2 in. Oregon pine, placed together longitudinally, securely fastened with six bands of  $\frac{3}{4}$ -in. iron. Each board is tongued with strips of galvanised iron, which hermetically seals them together. Maize is chiefly used for the making of the ensilage. This crop is grown in drills 3 ft. apart to permit





of cultivation, and it is cut for ensilage when the cobs are in the dough state. The maize stalks are then carted from the farm to the shed, where it is chaffed by an Ohio chaff-cutter, and is subsequently carried into the silo by means of a blower. Both the chaff-cutter and blower are driven by a portable oil engine. The total cost of making a ton of ensilage, including all labour and cultivation, works out on an average at 9s. 6d., or for a 100-ton silo about £45. The erection of the silos cost £1 per ton.

Mr. C. Behrendorff, of Benjurgan, near Boonah, in the Fassifern district, has had erected on his farm a concrete block tub and pit silo. It is situated in a central position within a large galvanised shed, portion of which is fitted with a row of feeding troughs for the stock. The pit portion of the silo is 6 ft. 3 in. deep, and the tub is 20 ft. above ground. It has a diameter of 14 ft., and when filled will hold about 115 tons of ensilage. By means of a patent machine Mr. Behrendorff made the concrete



PUREBRED AYRSHIRE HEIFERS AT WARREN STATE FARM, C.Q.



blocks, which are 12 in.  $\times$  6 in.  $\times$  6 $\frac{1}{4}$  in., with sand and cement. It is stated that one cask of cement will make from 85 to 90 blocks, the component parts of which are six of sand and one of cement. The bulk of the work in connection with the construction of the silo was done by Mr. Behrendorff. The cost of its erection was greatly reduced on account of the close proximity of sand to the farm. One of its outstanding features is its substantial character, and in this respect it will outlive many of the wooden structures. The ensilage is chaffed by a Bentall chaff-cutter, and carried into the silo by an endless chain elevator, both of which are driven by a 6 $\frac{1}{2}$  h.p. spirit engine. When the ensilage is matured and ready for use it is taken from the silo by means of a shoot, and placed



DAIRYING AND SHEEP-RAISING AT SOUTHBROOK, DARLING DOWNS

on to a truck, which is run on a set of rails. From the truck the preserved fodder can, without any difficulty, be transferred to the sixteen feeding troughs. Exclusive of the value of his own labour, the actual cost of erecting the silo was about £40. The ensilage consisted of one-half maize, one-quarter sorghum, and a like quantity of lucerne and cowpea.





SILOS AND CROP OF MANGEL-WURZELS AT HERMITAGE,  
NEAR WARWICK

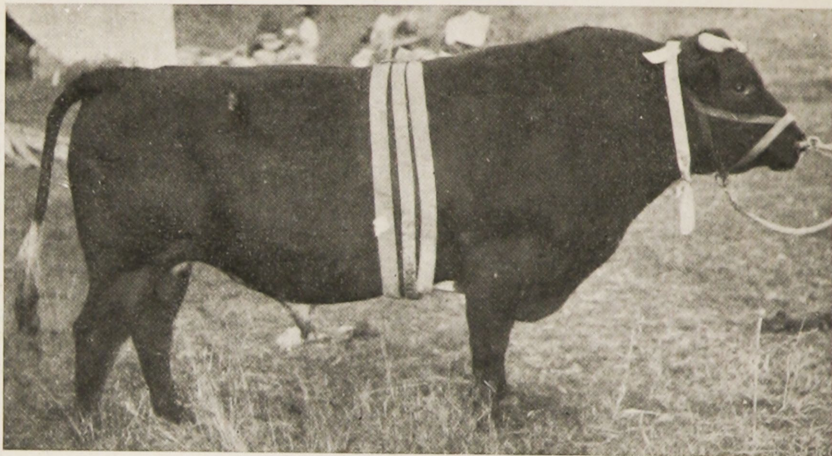
On Edenbann Farm, at Kelvin Grove (Brisbane), Mr. R. McCook has a square-shaped concrete pit silo inside his barn, 19 ft.  $\times$  10 ft.  $\times$  10 ft., the construction of which involved an expenditure of £78. It has a capacity of 38 tons, the ensilage used being made of maize and sorghum. The chaff-cutter is set in motion by a 3 h.p. dynamo.

At the St. Helena Penitentiary there is a silo composed of stone and mortar plastered. There are also a number on various farms in the Moreton, South Coast, Darling Downs, Wide Bay, Burnett, Central, Atherton,



IRRIGATING MAIZE ON ENOGGERA CREEK, BRISBANE





AN UNBEATEN PUREBRED ILLAWARRA BULL (NOW DECEASED)

and other districts. In the Murgon district Messrs. P. Pearson, T. H. and H. V. Armstrong, and H. Rodgers have each one reinforced concrete silo, with a capacity of 60 tons. Altogether there are fully 100 silos in Queensland.

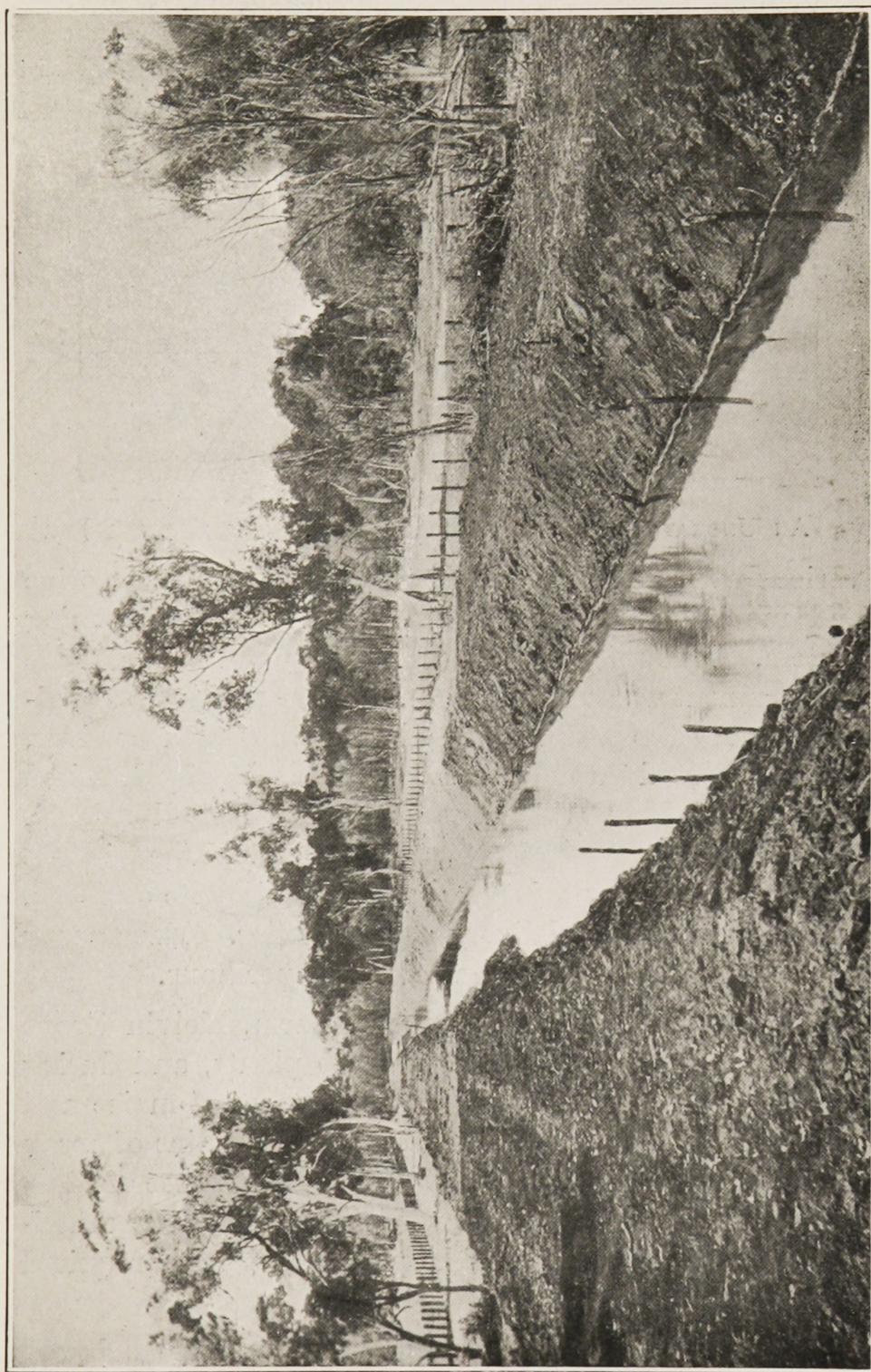
#### **POSSIBILITIES OF IRRIGATION.**

The solution of the difficulties experienced by agriculturists and dairymen during dry spells can, to a great extent, be brought about by irrigation. There are



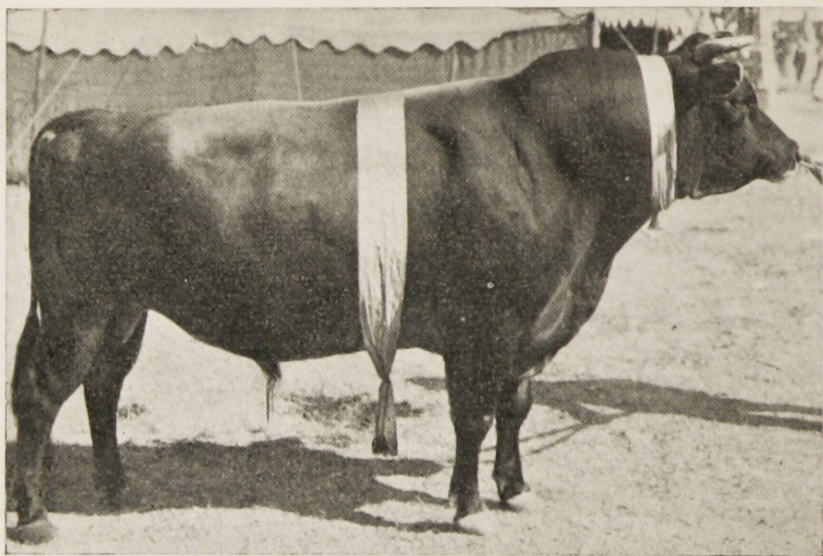
PUREBRED HOLSTEIN COW





ANOTHER SYSTEM OF IRRIGATION





AN UNBEATEN PUREBRED JERSEY BULL (NOW DECEASED)

various ways of doing this, but one of the most effective and most inexpensive is that known as the spraying system. Of course, everything depends upon the existence of permanent water on the farm. With the aid of a centrifugal pump the water is raised from the creek or river, and then forced through many chains length of galvanised iron mains, from which are connected several feeders, with a series of sprays attached thereto. When in use these sprays throw a jet of water to a distance of 20 ft. on either side of the delivery pipe or feeder. Each spray distributes about 250 gallons of water per hour.

Mr. R. McCook, of Edenbann Farm, Kelvin Grove (Brisbane) has installed one of these plants, and during the recent dry spell was irrigating 5 acres of maize and oats. He has 11 chains of main piping, 5 chains of spray piping, with 28 3-ft. sprays attached at a distance of 12 ft. apart. A 5 h.p. dynamo is used for working the centrifugal pump and supplying the pressure of water required through the pipes.

Messrs. F. G. Brown, Moorombin, Toogoolawah (Brisbane Valley district) and Hastie Brothers, of Ather-



ton (North Queensland) have irrigation plants of a similar nature, and are successfully raising fodder for their stock by this means.

The plant complete, with sufficient piping and sprays to water 5 acres, can be purchased for about £250.

At present there are 473 irrigation plants installed in Queensland, the area watered thereby being 8,661 acres. These, however, are not all used in connection with the dairying industry.



WATERING THE HERD AT ROSEWOOD

### LIBERAL LAND LAWS.

Queensland offers her broad acres of exceptionally fertile lands to settlers on the most liberal terms and conditions in the world. At the present time there are 7,646,276 acres of agricultural and grazing lands available for selection, made up as follows:—Agricultural



farms, 1,389,596 acres ; prickly-pear selections, 2,970,592 acres ; grazing farms, 3,286,088 acres. These areas may be taken up under the following modes and conditions :— (1.) Agricultural Selections, i.e., agricultural farms, perpetual leases, agricultural homesteads, and free homesteads ; (2) Grazing Selections, i.e., grazing homesteads and grazing farms ; (3) Prickly Pear Selections ; (4) Unconditional Selections.



CHAMPION AYRSHIRE COW

Agricultural farms, suitable for dairying and general farming, may be taken up in areas up to 2,560 acres under personal residence conditions at prices ranging from 10s. per acre upwards, the payments therefor extending over 20 years. The annual rental is one-fortieth of the purchasing price.

**PERPETUAL LEASE SELECTIONS.**—The conditions of personal residence and improvements as prescribed for agricultural farms apply to selections under this mode. Rent for first period of 10 years,  $1\frac{1}{2}$  per cent. on the notified purchasing price of agricultural farms. The rent for each succeeding period of ten years is determined by Land Court.



AGRICULTURAL HOMESTEADS.—Maximum area, 320 acres; price 2s. 6d. per acre; annual rent, 3d. per acre; term, 10 years. These areas are only available in remote localities.

FREE HOMESTEADS.—Maximum area, 160 acres; term, 5 years; personal residence conditions, improvements compulsory. These areas cannot be mortgaged or sold until a deed of grant is obtained by the selector, and are only available in remote localities.



MANGEL-WURZELS GROWN AT HERMITAGE, NEAR WARWICK  
(DARLING DOWNS)

GRAZING SELECTIONS.—Maximum area, 60,000 acres; personal residence conditions, improvements compulsory; rent, from 1½d. per acre upwards; term of lease, not to exceed 28 years. Annual rentals after first period of seven years are determined by the Land Court.

UNCONDITIONAL SELECTION.—Maximum area, 1,280 acres; price, from 13s. 4d. per acre upwards, payable in twenty annual instalments.



**PRICKLY PEAR SELECTIONS.**—Maximum area, 2,560 acres; lease, 15 years, divided into two periods; pepper-corn rental during first period, compulsory eradication of prickly pear. In the case of badly infested land, it is optional for the Lands Department to offer a bonus to the selector for the clearing of the land, and when freed from the pest, he is entitled to a deed of grant without any payment except the deed fees.

**SELECTION BY ALIENS.**—All aliens (Americans, Germans, Swedes, Italians, etc.) must become naturalised before they can acquire land, and pass a test in reading and writing in such language as the Minister for Lands may direct. An alien must reside two years in the Commonwealth before he can become naturalised.



PUREBRED JERSEY COW

### **ASSISTANCE TO SETTLERS.**

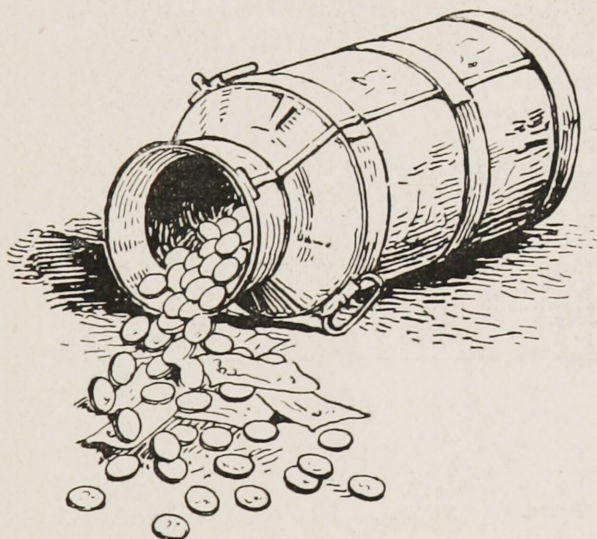
The Government issues to the intending settler desirous of inspecting Crown lands with a view to selecting an area not greater than 5,120 acres, a second-class railway ticket from the railway station in Queensland nearest to his home at half the ordinary fare. If the intending settler subsequently acquires a selection subject to personal residence conditions, and not exceeding 5,120



acres in area, the half-fare paid by him is refunded, and his family, self, ordinary household furniture and effects, agricultural implements, seed, one dray, and one set of harness, are carried free to the railway station nearest to his selection.

### QUEENSLAND'S GOLDEN OPPORTUNITIES.

Queensland holds out golden opportunities to all new arrivals from Great Britain, Europe, the Commonwealth of Australia, and the Dominion of New Zealand to settle upon her broad and fertile areas. The agriculturist and dairyman are particularly invited to make Queensland their home. She has room for millions of new settlers. Prosperity is general, and wealth and fame await all who are industrious, persevering, and thrifty.



1st November, 1912.



# QUEENSLAND

## "The Wonderland of Australia."

UNRIVALLED IN PASTORAL, AGRICULTURAL,  
- - - AND MINERAL RESOURCES - - -



For detailed information in regard to the Resources,  
- Land available for Selection, etc., apply -

The Director



Queensland Government Intelligence  
- - - and Tourist Bureau - - -

Corner Queen and George Streets, Brisbane



# QUEENSLAND

Scale of Miles  
0 40 80 120 160 200

## Queensland Statistics, 1911.

Butter	27,858,535 lb.
Value	£1,242,555
Cheese	3,718,257 lb.
Value	£89,084
Condensed Milk	6,227,519 lb.
Value	£138,513
Bacon and Hams	11,667,654 lb.
Value	£397,494
Number of Milch Cows	357,095
Number of Pigs	173,902

## REFERENCE.

Dairying Districts shown in green.  
Areas suitable for dairying shown in yellow

## Butter Factories (48).

Atherton (N.Q.)	1	Pittsworth (Darling Downs)	1
Rockhampton and district (C.Q.)	4	Oakey	1
Gladstone (C.Q.)	1	Mt. Bismarck	1
Bundaberg (North Coast Line)	1	Allora	1
Maryborough	1	Clifton	1
Biggenden	1	Warwick	1
Gayndah	1	Texas	1
Tiaro	1	Ipswich (S.Q.)	2
Kingaroy	1	Marburg	1
Namango	1	Walloon	1
Gympie	1	Purga	1
Caboolture	1	Booval	1
Woodford	1	Esk	1
Maleny	1	Gatton	1
Roma (S.W.Q.)	1	Laidley	1
Miles	1	Granham	1
Chinchilla	1	Boonah	1
Dalby (Darling Downs)	1	Terror's Ck	1
Jandowae	1	S. Brisbane	1
Toowoomba	1	Pinkenba, Brisbane	1
Crow's Nest	1	Kingston, S.Q.	1
Goombungee	1	Beaudesert, S.Q.	1

## Cheese Factories (25).

Teutoberg (North Coast Line)	1	Cambooya (Darling Downs)	1
Obi Obi (Nambour, N.C.L.)	1	Greenmount	1
Mudgeeraba (South Coast Line)	1	Mt. Domville	1
Tabragalba	1	Ramsey	1
Rosevale (S.Q.)	1	Bringingilly	1
Pittsworth (Darling Downs)	2	Clifton	1
Southbrook	1	Back Plains, Clifton	1
Goombungee	1	Leyburn	1
Zabaly	2	Warwick	1
		Inglewood	1
		Kooroongarra	1
		Tannymorel	1
		Yangan	1

## Condensed Milk Factories (6).

Gowrie (Darling Downs)	1
Wysema (S.Q.)	1
Colinton (S.Q.)	1
Toogoolawah (S.Q.)	1
Lowood (S.Q.)	1
Wilson's Plains (S.Q.)	1

## Bacon Factories (5).

Toowoomba (Darling Downs)	1
Boonah (S.Q.)	1
Oxley (Brisbane, S.Q.)	1
Murrarie	1
Zillmere	1









